MATTHEW MULCAHY

# Hurricanes and Society

## in the British Greater Caribbean, 1624–1783

VISIT…

# Hurricanes and Society in the British Greater Caribbean, 1624–1783

*Early America: History, Context, Culture*
Joyce E. Chaplin and Philip D. Morgan, Series Editors

# Newes and ſtrange Newes from St. *Chriſtophers*

of a tempeſtuous Spirit, which is called by the Indians a *Hurry-Cano* or whirlewind.

Which hapneth in many of thoſe Ilands *of America* or the *Weſt-Indies*, as it did in *Auguſt* laſt, about the 5. day. 1638.

Blowing downe houſes, tearing up trees by the *rootes*, and it did puffe men up *from the earth, as they had beene Feathers, killing divers men.*

---

*Whereunto is added the true and laſt relation of the dreadfull accident which hapned at* Withicombe *in Devonſhire the* 21. *of October laſt paſt.*

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Imprinted at *London* by *I. O.* for *Francis Coules* dwelling in the Old-Baily. 1638.

# Hurricanes and Society in the British Greater Caribbean, 1624–1783

Matthew Mulcahy

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# Hurricanes and Society in the British Greater Caribbean, 1624–1783

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# Melancholy and Fatal Calamities

The storm began about 6:00 A.M. on September 11, 1751. On the previous evening the sky had been "a very livid color, horrible to behold," alarming Jamaican colonists, who feared a major hurricane. The early morning confirmed their worst fears, as the "hard squalls of wind" gave way to stronger and more continuous gusts. The storm grew in intensity throughout the morning, darkening the sky until ships anchored in Kingston's harbor could not see one another, while "no man could be heard to speak on board" because of roaring winds and thunder. By midday the winds rocked ships and threw sailors overboard. "Nothing could resist the violence of it," wrote one Jamaican colonist. "It resembled by its noise and force the explosion of cannons; the elements seemed enraged, portending death and destruction to animals and vegetables, striking terror into the most just." At William Dorrill's Salt River estate on the western end of the island, Thomas Thistlewood, a newcomer who had arrived from England only seventeen months earlier, reported that the storm "burst open the great house windows that were secured by strong bars" and flooded several rooms. Thistlewood and others scrambled to "the storehouse and hurricane house," where they huddled for hours as the storm raged around them.[1]

The next morning Thistlewood was amazed by the "strange havoc" he encountered as he toured the plantation and surrounding area. The storm damaged houses, ruined fields, washed away wharves, and left "boards, staves, and shingles blown about as if they were feathers." Later, walking along the coast, Thistlewood noted that there "were no birds stirring" and that "many fish [were] thrown up dead upon the shore . . . all the woods and mountains look open and bare, and very ragged [and] the woods appear like our woods in England in the fall of the leaf, when about half down." In the harbor at Kingston, one observer wrote, "nothing was to be seen but death and destruction, numbers lying on the shore drowned, and others floating on the sides and pieces of wrecks."[2]

Similar reports of devastation soon came from other parts of Jamaica and from other colonies in the West Indies, where the storm had struck a few days earlier and caused even greater damage. The hurricane leveled sugar mills and storehouses filled with valuable sugar on Antigua, resulting in losses of more than £100,000 sterling. At St. Christopher, "Houses, Mills, and Works, are in general very much damaged, and at several Estates entirely blown down," reported one planter. "At Montserrat there were scarce any houses and but two wind-mills left standing."[3]

News of the hurricane quickly spread to Barbados, Philadelphia, Boston, Edinburgh, and London. "A true description of it, if a true one can be given, would seem rather poetical than historical, fictitious than real," wrote one Jamaican survivor in an account reprinted in the *Scots Magazine*. "We have just receiv'd Accounts from Antigua of the most prodigious Hurricane that was ever known to blow in the Memory of Man," the governor of Barbados reported to London. "I forbear to mention any particular Circumstances of its dreadful Effects, as I make no doubt but the London newspapers will be soon, if not already, filled with Em." Thistlewood and other migrants may have read such accounts of hurricanes before arriving in Jamaica or elsewhere, but they now had their own experiences.[4]

The 1751 hurricane was just one of many that struck the British Greater Caribbean—a region stretching from Barbados through South Carolina—during the seventeenth and eighteenth centuries.[5] Hurricanes were entirely new to Thomas Thistlewood and other migrants. Western Europe occasionally experienced great storms, but they did not begin to compare with the frequency or ferocity with which hurricanes struck the Greater Caribbean. The storms routinely swept across the colonies, destroying fields and crops, leveling

plantations, cities, and towns, disrupting shipping and trade, and causing widespread privation and death among colonists and slaves. The experience marked the lives of all who survived them, and hurricanes quickly entered the collective histories of the colonies. Almanacs listed the dates of major hurricanes alongside the birthdays of monarchs and major public holidays. Special fast-day services commemorated particularly devastating disasters. Although other catastrophes—including earthquakes, droughts, and epidemics—threatened colonial settlements in the region at various times, hurricanes generated the most fear among colonists.[6]

The effects of the storms, moreover, extended beyond the colonies themselves. The plantation colonies of the Greater Caribbean formed the "brightest jewels" in the crown of the British Empire. They produced exotic staple crops that fed the appetites of consumers on both sides of the Atlantic and generated tremendous wealth not only for colonial planters but for the empire as a whole. The West Indian islands in particular served as the "hub of the British Empire," linking Britain, Africa, and the mainland colonies in an elaborate trading network. The devastation caused by hurricanes in the Greater Caribbean thus reverberated throughout the Atlantic world. The loss of crops often drove up the cost of sugar for coffee and tea drinkers and raised the price of rice in Britain and elsewhere in Europe. The physical damage caused by the storms increased demand in the colonies for everything from provisions to building supplies to finished crafts and furniture, and North American and British merchants and artisans rushed to supply the need. Merchants and ship captains tried to schedule voyages to the region before or after the hurricane season to avoid the threat.[7]

Despite their importance, we know relatively little about the history of hurricanes and their influence on colonial society. How did colonists interpret these new and terrifying events? What effects did hurricanes have on the plantation economies and slave societies of the region? How did colonists recover from various calamities, and what aid and relief was available to them? What adjustments and accommodations did colonists make in response to the storms? Few historians have considered these questions in any detail. Histories of the British colonies in this period always note the presence of hurricanes—they are difficult to ignore—but most discuss the storms and their aftermath only briefly. Other scholars have compiled accounts of hurricanes during the early modern period, but they have been more interested in the history of meteorology and shifting ideas about the causes of storms than in tracing the effect of storms on colonists and colonial societies.[8]

A full understanding of the history of these colonies, however, requires attention to the great storms that regularly swept across the region. The destruction hurricanes wrought—and the fundamental environmental uncertainty it produced—created unique challenges for British colonists during the seventeenth and eighteenth centuries. English migrants to the New World came with hopes of recreating, or improving on, the world they had left behind, but everywhere they settled the physical environment forced them to alter some of the attitudes, beliefs, and practices that had characterized their lives in Europe. As numerous historians have suggested, new weather patterns and conditions, different geographies, and unknown plants and animals—to say nothing of new peoples and new social relationships—all required colonists to adapt some of their basic cultural practices and ideals. This dynamic interaction between the environmental conditions colonists encountered and the cultural ideals and institutions they brought with them shaped colonization efforts in all parts of British America, from northern New England to the islands of the West Indies.[9]

In the Greater Caribbean, hurricanes played a central role in this process of encounter and accommodation. The storms helped distinguish the physical environment from that elsewhere in British America and raised questions about how permanent settlements would develop. The devastation accompanying hurricanes tested colonists' notions of improvement and their faith that they could transform the American "wilderness." The frequency of the storms made them question prevailing interpretations of the causes of such disasters. Hurricanes affected their economic prospects, routinely causing significant short-term losses for most planters and complete devastation for some. The destruction of houses and other buildings required rethinking familiar English building styles and practices. The frequent damage from storms reinforced trade connections to merchants in England and North America, who supplied vital credit, provisions, and building supplies in the wake of disasters. Thus, in a variety of ways large and small, hurricanes shaped the mental and physical world of colonists during the seventeenth and eighteenth centuries.

Hurricanes also shaped the lives of the African slaves who formed the majority of the population. Hurricanes were new to Africans as well as Europeans, and the storms caused particular hardships for slaves. Unfortunately, existing accounts and documents, all written by colonists or travelers, give only brief glimpses of slaves' experiences during and after hurricanes. What they may have thought about hurricanes, and what effect the storms had on

slaves and slave communities, is discussed at various points in the text, especially in chapter 4, but the book focuses mainly on British colonists.

Although hurricanes influenced various aspects of colonial society during the seventeenth and eighteenth centuries, the particular social forms and institutions that colonists established over time in turn shaped their experience of hurricanes. Over the past twenty years, historians, anthropologists, and sociologists have come to argue that natural disasters are never simply natural events. Rather, they are connected to human actions and to human interactions with the environment. Disasters become defined as such only when they strike human communities, and their impact has as much to do with the context in which they strike as with the physical forces that give rise to them. Social, political, and economic conditions determine the extent of damage wrought by natural hazards, the effects on different communities within society, and the response by both individuals and official institutions. A series of hurricanes in Cuba in the 1840s, for example, brought uniform devastation to the island, but the storms affected coffee and sugar plantations differently, reflecting preexisting market conditions. The interactions between the hurricanes and those different market conditions, in turn, altered the lives of Cuban slaves who were sold from defunct coffee plantations into the much harsher world of sugar production.[10]

In the seventeenth- and eighteenth-century Greater Caribbean, slavery, plantation agriculture, and British mercantilism were important in defining the effects of hurricanes and shaping colonists' response to them. The specific landscapes of sugar and rice plantations, the demographic dominance of African slaves, and the economic networks and policies linking the colonies of the Greater Caribbean with other parts of the British Atlantic world all influenced the degree and kind of damage inflicted by the storms, the problems created by the breakdown of the social order, and the nature of relief efforts.

Because the effect of hurricanes was shaped by these larger social, political, and economic circumstances, examining the storms can provide a valuable perspective on colonial society and new insights on institutions, attitudes, and relationships that are not always fully visible or clearly articulated during periods of "normality." More specifically, the history of hurricanes in the Greater Caribbean highlights several larger issues of concern to historians of early America, including shifting ideas about the natural world among colonists, the structure of political relationships within colonial society, the increasing political and economic connections between the colonies and other parts of

The colonies of the British Greater Caribbean

the British Atlantic world, and the articulation of new ideas of sensibility, humanitarianism, and patriotism during the eighteenth century.[11]

The path of hurricanes through the Caribbean Sea and the Atlantic Ocean does not coincide with the geographic divisions historians traditionally use in studying British America. The colonies of the Lower South (South Carolina and Georgia, and after 1763 East and West Florida) and the British West Indies (Barbados, Jamaica, Antigua, Montserrat, Nevis, and St. Christopher, and after 1763 the so-called ceded islands of Tobago, Grenada, St. Vincent, and Dominica), often analyzed as distinct units, are here grouped as the "British

Greater Caribbean." Within that larger region, this book gives particular attention to South Carolina and the pre-1763 West Indian colonies.[12]

There are several reasons for examining these colonies as a region. First, they were repeatedly devastated by hurricanes during the seventeenth and eighteenth centuries. Hurricanes sometimes struck other colonies—Virginia, Maryland, and even New York and Massachusetts occasionally suffered damage from storms that made their way up the eastern seaboard—but in the eyes of contemporaries, the colonies of the Greater Caribbean formed a well-defined hurricane zone. The storms struck them more often, and with greater severity, than any others in British America. In addition, although Maryland, Massachusetts, and other colonies occasionally experienced hurricanes, the social and economic contexts differed markedly from the Greater Caribbean, and so did the impact of the storms. The same argument applies to Bermuda and the Bahamas.[13]

Hurricanes created similar problems for colonists throughout the Greater Caribbean, particularly for those in South Carolina and the older West Indian islands, because the colonies shared several important social and economic characteristics. South Carolina developed as a "colony" of Barbados, settled by migrants seeking new economic opportunities in the decades after the sugar revolution of the mid-seventeenth century. All the colonies were plantation economies characterized by a dominant staple crop—sugar in the West Indies, rice in South Carolina—and large slave populations. The institution of slavery existed throughout British America, but not even in the tobacco colonies of Maryland and Virginia did African slaves form so numerous or so important a part of the population. Slaves in the Greater Caribbean labored on the largest plantations in British America, and they formed the majority of the population in South Carolina and all of the island colonies. In addition, the wealth generated by sugar, rice, and slaves gave rise to the richest and most powerful planter elites in all of British America. One recent study estimates per capita wealth for whites in Jamaica at over £2,000 in 1774, compared with just £33 in New England. South Carolina did not approach Jamaica's per capita wealth, but it was home to the richest planters on the mainland. Of the ten richest men in North America on the eve of the Revolution, nine lived in Charleston or the surrounding plantation districts. Contemporaries thus had good reasons to refer to "Carolina in ye West Indies."[14]

Significant differences did exist among the colonies. South Carolina and Barbados experienced fewer hurricanes than the Leeward Islands and Jamaica

during this period, and the influence of the storms appears less pronounced in the former. Hurricanes often ravaged entire islands while damaging only part of the larger mainland coast. South Carolina's economy, moreover, was more diversified than the sugar monoculture of the islands, and the colony produced more of its own food. All these factors are important in considering the effect of hurricanes. Variation existed among the sugar islands as well. The Leeward Islands had the smallest white population of any of the islands; only 1,900 whites lived on St. Christopher on the eve of the American Revolution, compared with roughly 13,000 in Jamaica. The availability of land in Jamaica meant that slaves grew more of their own food instead of relying so heavily on provisions imported from the mainland colonies. Nevertheless, despite some differences, shared history, shared social structures, and shared experiences with hurricanes connected the colonies of the Greater Caribbean.[15]

Similar reasons support the particular focus on South Carolina and the pre-1763 island colonies. Georgia was not settled by colonists until 1733 and was not a slave society until the 1750s. More important, the colony escaped major hurricanes for most of the period under study. The 1752 hurricanes that devastated South Carolina, for example, did relatively little damage in Georgia.[16] Likewise, several hurricanes struck West Florida in the period between Britain's acquiring the territory (1763) and its ceding it back to Spain as part of the Treaty of Paris (1783), but they struck a plantation society still in development. In 1774 the vast territory contained only 3,750 whites and 1,250 slaves. The effect of hurricanes in this social context differed significantly from that in a mature plantation economy. East Florida developed more quickly into a plantation slave society and suffered from at least one hurricane during British occupation, but the colony was back in Spanish hands within a few years. Some evidence and examples are drawn from Georgia, Florida, and the Ceded Islands, but this book concentrates on South Carolina, Barbados, Jamaica, and the Leeward Islands.[17]

Hurricanes, of course, did not respect international political boundaries. Major storms routinely struck Spanish Florida and Spanish, French, Dutch, and Danish colonies in the West Indies. Although most shared basic characteristics with their British neighbors—notably slavery and plantation agriculture—important differences in cultural, political, legal, and religious systems distinguished the colonies, which influenced both the impact of the storms and how colonists recovered from them. Imperial, and later national, boundaries had real meaning during this period and helped shape how colonists

experienced the storms. I hope, however, that this exploration of hurricanes within the British colonial context will contribute toward a larger study of hurricanes in the region as a whole.[18]

Considerations of context, finally, determined the chronological boundaries of this book. It begins in 1624 with the first sustained efforts by the British to establish permanent settlements in the region and ends with a series of hurricanes in the 1780s that devastated the British West Indies, particularly Barbados and Jamaica. Although hurricanes continued to batter the region, many of the forces that once united the colonies dissolved during the era of the American Revolution. Indeed, the idea of a "British Greater Caribbean" as defined here ceased to exist as South Carolina joined the fledging United States while the island colonies remained within the British Empire. Such changes had important consequences for residents of the respective colonies (and now states) as they faced the challenges of hurricanes in the nineteenth century and beyond.

Monetary figures in the colonies are quoted in local currency unless otherwise noted. Figures for Britain are in pounds sterling. Pre-1752 dates are in old style, except the year begins January 1.

CHAPTER ONE

# Encountering Hurricanes

In early 1624 a small group of colonists led by Sir Thomas Warner landed on St. Christopher, one of the Leeward Islands in the northeastern Caribbean. They immediately set about securing their possession, and over the next several months they erected a small fort, built a few rudimentary dwellings, and planted some tobacco and provision crops. Their initial efforts at colony building, however, proved short-lived: nine months into the enterprise, "upon the nineteenth of September came a Hericano and blew it away."[1]

The 1624 storm was not the first hurricane the English encountered in the New World. Early privateers had learned about the power of storms during the sixteenth century while cruising the region in search of Spanish treasure fleets. In 1609 the ship *Sea-Venture,* en route to Virginia carrying passengers and supplies, foundered on the island of Bermuda during a hurricane. An account of the *Sea-Venture*'s perils inspired Shakespeare's final play, making it perhaps the most famous hurricane in early American history. It is unclear whether the initial migrants to St. Christopher knew about *The Tempest* or the *Sea-Venture,* but the 1624 storm vividly illustrated the dangers hurricanes posed to their efforts at building settlements. And it was only the beginning. Less than

two years after they rebuilt their infant colony, a second storm swept across the island. John Smith reported that the hurricane "blew downe all our houses, Tobacco and two Drums [were thrown] into the aire we know not whither, drove two ships on shore that were both split; all our provisions thus lost, we were very miserable." The colonists, Smith recounted, scavenged in the "wilde woods" for food, and they struggled to survive until the next June when turtles came ashore, providing some welcome variety to their diet.[2]

Warner, Smith, and the other English colonists who traveled to the West Indies and southern mainland in the seventeenth century expected the physical environment to present obstacles, but they were not prepared for the frequency and ferocity of hurricanes and tropical storms.[3] Nothing in the physical environment proved more terrifying, and nothing better represented its essential "wilderness" in their eyes. Colonists worried about how tropical heat, humidity, earthquakes, and drought would affect individual bodies and English culture, but hurricanes quickly became the region's most dreaded feature. "What is most to be feared," wrote one observer, "is a general conspiracy of all the Winds . . . which is called a Hurricane." One seventeenth-century ship captain stated that the "Force and Violence" of a hurricane "exceeds all Storms of Wind in the World." An eighteenth-century Jamaican planter described hurricanes as "the most formidable enemy" and "principal dread" of colonists. According to Edmund Burke, heat and humidity were "unfriendly and unpleasant to an European constitution," but hurricanes were "the most terrible calamity to which they are subject from the climate."[4]

As colonization efforts in the Greater Caribbean continued over the seventeenth century, spreading out from St. Christopher to Barbados, Jamaica, and other islands in the West Indies as well as to South Carolina on the mainland, encounters with hurricanes, as much as any other factor, shaped colonists' perceptions and fears about the physical environment. The storms quickly became a defining characteristic of the region, distinguishing it from other parts of British America and, most starkly, from England itself. But hurricanes were more than environmental markers. The storms also raised troubling questions about the relation of English culture to American nature. Colonists arrived with a firm belief that they could transform the wilderness of the New World into an orderly, productive, and settled landscape. But the hurricanes forced them to adjust their expectations about how colonial society would develop over time and helped shape a distinct mentality among all who settled there.

Most hurricanes develop in the eastern Atlantic Ocean off the African coast, although some arise within the Caribbean basin itself. In both cases the storms originate where the northeasterly and southeasterly trade winds converge, and they develop during the summer and early autumn when the ocean temperature is highest. These warm waters provide the essential fuel for hurricanes. Throughout the year the ocean absorbs much of the sun's heat, and as it does, the heated water is transformed into vapor. This warm, moist air rises through the troposphere—the region of the atmosphere that extends roughly seven miles above the earth's surface and is where most weather occurs. At a certain point the vapor cools and condenses into clouds. The condensation releases heat, which in turn propels the air farther upward, forming cumulus clouds and spawning thunderstorms.

Hurricanes always emerge from some preexisting weather disturbance, often from bands of thunderstorms. Under certain conditions the converging winds at the ocean's surface begin to spiral inward and counterclockwise around the low-pressure area accompanying the disturbance. As that happens, the stronger winds pull even more water vapor from the ocean, bringing more energy into the system. With the right conditions—the right water temperature and levels of moisture—the whirling further intensifies the storm: more thunderclouds develop, the barometric pressure continues to drop, and a relatively well defined and calm "eye" forms at the center of the storm. At this point the winds and rain qualify as a tropical storm. If the storm continues to grow and the wind speed passes 74 miles per hour, the tropical storm becomes a hurricane. Wind speeds of hurricanes vary—the strongest exceed 155 mph, the base for today's definition of a category five storm on the Saffir-Simpson scale—and strong gusts may sometimes approach 200 mph. Similar storms exist in the tropical Pacific and Indian Oceans (typhoons and cyclones, respectively), but use of the word "hurricane" is limited to the North Atlantic and eastern North Pacific.[5]

Why some tropical depressions develop into tropical storms and others do not is not entirely clear to contemporary scientists, but certain conditions must be present. The ocean surface needs to be at least 27°C (80°F).[6] In addition, the air at different levels of the troposphere must contain sufficient moisture to ensure that storms are not diluted by dry air at higher levels. Geography also plays a role. Hurricanes generally develop in the region between 5° and 20° north and south of the equator. Below 5°, the force of the earth's rotation—known as the Coriolis effect—is too weak to allow the winds to begin

to rotate. Above certain latitudes, the water temperature is usually too low for storms to form. Hurricanes will continue to increase in strength over the warm waters of the tropics, but they lose energy when they move onto land or travel over cooler waters.[7]

Hurricanes possess spectacular and brutal power. Tornadoes often have higher wind speeds, but they spawn and die out relatively quickly, and their overall breadth is usually measured in yards. Hurricanes, by contrast, spread out hundreds of miles from the eye and can pound a community for hours and sometimes days. The storms themselves last on average ten days, moving across the region at roughly 10 mph, although that speed can vary considerably. Hurricanes may even spawn tornadoes themselves as part of the larger storm system.[8]

The pounding winds and driving rains cause significant damage and flooding, but the most dangerous element of the hurricane is often the storm surge that accompanies it. These floodwaters can be more than twenty feet high when the storms hit land. The massive waves of the storm surge are dangerous at all times, but when a storm's landfall coincides with high tide, the impact is truly disastrous. The storm surge, rather than simply high winds, usually causes the most death and destruction; nine out of ten hurricane-related deaths today are drownings. The location of a storm at landfall influences both the storm surge and the general impact of hurricanes. The most dangerous location is the right front quadrant of the storm (to the right of the eye). There the counterclockwise winds combine with the forward direction of the storm itself to produce the highest winds and greatest storm surges. Conversely, winds in the semicircle to the left of the eye move against the direction of the storm, thereby "lessening" their impact.[9]

These driving winds and surging waters can cause horrific loss of lives and property. The deadliest disaster in United States history, when more than 8,000 lives were lost, was the Galveston hurricane of 1900. Hurricane Andrew ranks as the costliest disaster in United States history, with over $35 billion in damages. In the Caribbean, the damage caused by Hurricane Allen in 1980 on the island of St. Lucia was equal to 89 percent of the country's gross national product.[10]

The number of hurricanes that develop varies considerably from year to year, from one or two to more than twenty. Dozens of tropical depressions form each year, but only a few grow into tropical storms, and fewer still turn into hurricanes. In most years roughly a dozen storms develop in the region,

and about half of those become hurricanes. Today the frequency of the storms striking any one place is measured in hundred-year probabilities, reflecting the number of storms likely to hit during that time. Such figures are somewhat deceptive, however, since a single location can experience multiple storms in a short period followed by years, if not decades, of inactivity. Jamaica, for example, experienced no significant storms during the 1760s and early 1770s but then suffered five hurricanes in the seven years from 1780 to 1786. South Carolina was hit by two hurricanes within two weeks in September 1752. It is a rare year that some part of the Greater Caribbean is not struck by a major tempest. The storms sometimes move up the eastern seaboard and strike the mid-Atlantic and New England states, but they are most common and most destructive among the islands of the Caribbean basin and along the low-lying coastal areas of the southeastern United States and the Gulf Coast.[11]

Columbus was the first European to experience a hurricane, and it is from his accounts that information about the storms and the word itself entered European consciousness and vocabularies. While sailing off the coast of Hispaniola in June 1495 during his second trip to the region, Columbus encountered a "whirlwind" so strong that "it plucked up by the roots . . . great trees" and "beat down to the bottom of the sea three ships which lay at anchor." The local Indians, he wrote, called "these tempests of the air . . . Furacanes."[12] "Furacanes" was a mistranscription of *hurakán,* the Taino word for a storm of wind and rain under the control of a supernatural force. All the Indian groups in the region had a similar word, and the Spanish quickly adopted it in their descriptions of powerful storms that routinely battered their early settlements. In his 1535 natural history, Gonzalo Fernández de Oviedo noted that the winds of the "huracán" were so "fierce that they topple houses and uproot many large trees." By 1575 Bartolomé Las Casas reported that "what the Indians called in their language huracán, . . . we now also call huracanes, something that almost all of us have experienced at sea or on land."[13]

Knowledge of "furcanes," both the word and the terrifying storms it described, remained limited to Spanish speakers until 1555, when Richard Eden translated Columbus's report and other Spanish accounts of the New World, marking the first appearance of the word in English. English explorers and privateers soon contributed their own accounts of encounters with the storms. Sir John Hawkins wrote that he left Cartagena in late July 1568 "hoping to have escaped the time of their stormes . . . which they call Furicanos."

Hawkins did not leave soon enough, and he and his ships were bashed by an "extreme storme" lasting several days. Sir Francis Drake encountered a major tempest while anchored near the ill-fated Roanoke colony in June 1586. Other English accounts reported ships damaged or lost in storms characterized by extreme wind and rain, some of which certainly were hurricanes.[14]

Despite the growing number of reports concerning these new and deadly storms, information about hurricanes remained the province of a small elite who bought books or read travelers' accounts. Even then, getting the information could be difficult. Ralph Bohun, the author of an important seventeenth-century treatise on winds, wrote that several friends assured him "that the best accounts [of hurricanes] are to be had from Oviedo, and other Spaniards . . . yet their books are so rarely to be met with." Most of those venturing to the New World had no knowledge of the word or the storms. When passengers on the ship *Sea-Venture* encountered a terrible storm off the coast of Bermuda in 1609, none knew to call the storm a hurricane. "For mine own part," wrote one passenger, William Strachey, "I had been in some stormes before, as well as upon the coast of Barbary and Algiers in the Levant. . . . Yet all that I had ever suffered gathered together might not hold comparison with this." Strachey's account of the storm and the passengers' travails on Bermuda may have served as a source for William Shakespeare's final play. It is interesting that Shakespeare did not title his work *The Hurricane.* He knew the word: "hurricano" appears in two earlier plays, *King Lear* and *Troilus and Cressida.* Perhaps recognizing that such a title would be puzzling to most of his audience, he chose *The Tempest* instead.[15]

Early colonists likely had little or no knowledge of hurricanes when they left England, but they quickly learned about the storms' destructive power as they attempted to establish settlements throughout the Greater Caribbean. Smith's terse comments reveal little about how colonists on St. Christopher reacted in 1624, but details on the terror hurricanes caused came fourteen years later when another tempest leveled the island. A short pamphlet titled *Newes and Strange Newes from St. Christophers of a tempestuous Spirit, which is called by the Indians a Hurry-Cano or whirlewind* (1638) provided English readers with an extended description of a hurricane and the accompanying devastation. The tempest in August of that year killed seventy-five people and sank five ships, "besides the harme it did to many Houses and goods." Panic-stricken colonists evacuated their houses, "not daring to remaine in them for feare that they should be blowne down about their eares; at which dangerous

times they do creep for safety into holes, Caves, pits, Dens, and hollow places of the Earth, which are either naturall of themselves, or digged and framed by Art or laborious industry of man, which places are good harbours and defences against the Hurry-Cano." Many no doubt followed the example of local Indians, who tied themselves to trees to keep from being blown away. The pamphlet depicted such a scene in a woodcut accompanying the text (fig. 1). These were just the first of numerous storms to hit St. Christopher and the neighboring Leeward Islands of Nevis, Antigua, and Montserrat over the course of the seventeenth and eighteenth centuries.[16]

As colonization efforts spread throughout the Caribbean basin, English settlers soon learned that the storms extended beyond the Leeward Islands chain. The English established a settlement on Barbados in 1627. The colony managed to escape a major tempest for its first three decades, although minor tropical storms no doubt struck the island. Barbados then suffered a string of misfortunes. A French priest visiting in early 1654 reported that a storm had caused significant damage to shipping in Bridgetown harbor the previous autumn. A few years later a Swiss doctor traveling to Barbados reported that a

*Figure 1.* Woodcut depicting a hurricane in St. Christopher in 1638. From John Taylor, *Newes and Strange Newes from St. Christophers of a tempestuous Spirit, which is called by the Indians a Hurry-Cano or whirlewind* (London, 1638). Courtesy of the Huntington Library.

hurricane had struck several weeks before his arrival in early January 1661. A 1666 tempest claimed the life of the governor of the island, Francis Lord Willoughby, whose ship and crew perished a few days after leaving Barbados en route to St. Christopher and Nevis to aid colonists against French attacks. For a period in the late seventeenth century, some colonists referred to especially strong storms as "Willoughby gale[s.]"[17]

Storms hit the island again in 1667 and 1674, but perhaps the worst hurricane of the seventeenth century ravaged Barbados in August 1675. Gauging the strength and fury of a seventeenth-century storm is difficult because colonists had no means of measuring wind speed. Contemporaries recognized a hierarchy of winds ranging from "a stark calm" to "a small Gale" to "a Top-Sail Gale" to "a fret of Wind" and "a Tempest"—later replaced by the word "hurricane"—but such terms offer little help in interpreting the power of hurricanes or differentiating lesser tropical storms from hurricanes.[18] Moreover, increased development of the built environment over time meant that the potential for damage, even from minor storms, increased as well, making damage estimates a questionable foundation for judging the power of storms. By any standard, however, the 1675 hurricane appears as a major calamity. The governor of the island, Sir Jonathan Atkins, wrote that he "never saw a more amazing sight in one night. . . . All the prodigious effects of the hurricane would swell into a volume and puzzle belief." Throughout the island the "ruin of houses, works, mills, sugars, and utensils [was] incredible. [Planters'] canes for next year's sugar crop twisted and broken off, their corn and ground provisions that should have kept their families six months, laid flat or rooted up." The hurricane killed more than two hundred people, including entire families who were "buried in the ruins of their houses." One planter remarked in the wake of the storm that "such another blow will bring Barbadoes near the Horizon."[19]

While colonists in the Leeward Islands and Barbados struggled with the ravages of hurricanes, those settling in Jamaica appeared to have found a haven from the storms. For reasons no one fully understood, Jamaica seemed immune to hurricanes during the seventeenth and early eighteenth centuries. One commentator found it "very odd, that they [hurricanes] should be so dreadfull in some places of the Caribbe-Islands, insomuch that Nevis and St. Christophers, have severall times been almost depopulated by them, when they never reach to Jamaica." Another wrote in 1687 that "noe part of this Island is in the least subject to those violent and injurious storms called Hurricans,

wherewith the Caribbies and some other places in those parts are sometimes pestered." The British captured Jamaica from Spain in 1655, and colonists viewed its immunity to hurricanes as a key asset. Storms often forced English ships sailing in the region to seek refuge in Spanish ports, but an English Jamaica now offered a safe haven for distressed vessels. "Doubtless this is the best place in the West Indies," wrote one official when he arrived on the island in 1670 after stopping en route at Monserrat and Nevis, both of which were "much ruined by hurricanes." Some colonists from the hurricane-plagued Leeward Islands thought Jamaica might offer an escape where they could establish themselves and their property with a degree of certainty.[20]

This image of Jamaica as free from the ravages of hurricanes continued into the eighteenth century, despite at least one report of a storm in 1672. The island's exceptionalism, however, soon revealed itself as nothing more than good luck. Major hurricanes struck Jamaica in 1712, 1722, 1726, 1744, and 1751. One eighteenth-century writer noted that "the island, which was thought to be out of the reach of hurricanes, has terribly suffered by them." He suggested that the Port Royal earthquake of 1692 might have fundamentally altered Jamaica's climate for the worse. Others perhaps simply acknowledged that Jamaica's luck had run out. Unlike other British islands in the region, Jamaica's size meant that an individual storm often affected only part of the island. The hurricane in early October 1780 lashed the western parishes, for example, but did relatively minor damage in the east. A few years later a storm struck the eastern part of the island, causing widespread death and destruction. Jamaica's northern coast, by contrast, "suffered little more than they might expect in a common gale."[21]

Hurricanes also plagued the colony of South Carolina on the mainland. Immigrants from Barbados and elsewhere in the West Indies first settled South Carolina in 1670, pushed off the islands by the increasing difficulty of obtaining land in the wake of the sugar revolution and drawn in by the appealing descriptions of the mainland's environment. Early promotional tracts portrayed Carolina as ideally situated between the harsh cold of New England and the stifling heat of colonies farther south. What "makes this Place so desireable," wrote one traveler, was its situation "in the most temperate Clime, where the neighbour-hood of the glorious Light of Heaven brings many advantages, and his convenient distance secures them from the Inconvenience of his scortching beams. The Summer is not too hot, and the Winter is very short and moderate, best agreeing with English Constitutions." Many migrants also

hoped to escape the devastation routinely wrought by hurricanes in the West Indies. One report to the Carolina Proprietors in London suggested that the new colony would have no trouble finding recruits in the islands, since many in Barbados and Antigua "would willingly come off and transport themselves farther from the terrible Hurry Caines that doth everie yeare distroye their Houses and crops." Another stated that "many [were] removing from Antigo weary of Hericanes."[22]

Hopes of escaping hurricanes in South Carolina were dashed several years after the English arrived. In early September 1686, a "hurricane wonderfully horrid and destructive" swept along the coast, destroying the fragile houses, fences, and fields of the early colonizers. "The whole country seems to be one entire map of devastation," wrote one survivor. "The greatest part of our houses are blown down and still lie in their ruin, many of us not having the least cottage to secure us from the rigor of the weather." Another major storm struck in 1700, killing ninety-seven people, most of them sailors on board the Scottish ship *Rising Sun* anchored in the harbor. Thirteen years later the storm surge of another hurricane drowned at least seventy people and did significant damage to forts, houses, and plantations throughout the colony. One estimate stated the loss at £100,000. Hurricanes and lesser tropical storms remained frequent visitors to the colony throughout the eighteenth century.[23]

The presence of hurricanes quickly distinguished South Carolina from the other mainland English colonies. As early as 1699, Edward Randolph informed the Board of Trade that he had no intention of "[lying] Idle . . . when the Hurricanes come in these parts of the World." Instead, Randolph stated that he could "go securely to Virginia Maryland & Pennsylvania & New England without fear of being driven from these plantations by North West Winds." Edmund Burke wrote in the eighteenth century that Carolina "is the only one of our colonies upon the continent which is subject to hurricanes," although he thought the storms were less violent than those farther south. Mark Catesby likewise believed that South Carolina represented the edge of the hurricane zone. The colony, he wrote, periodically experienced "violent storms and innundations, which commonly happen about the time of the hurricanes that rage so fatally amongst the Sugar Islands," but he believed they were "much mitigated in their force by the time they reach Carolina." Hurricanes ended in Carolina, according to Catesby, with "Virginia not having often much of it."[24]

Hurricanes, of course, did not always end in South Carolina. A major storm struck Virginia in August 1667. The "Great Tempest" of wind and rain swelled

the seas and leveled the countryside, blowing or washing away everything in its path.[25] Hurricanes also occasionally pushed farther north. William Bradford wrote of a hurricane that struck Massachusetts on August 15, 1635, as a "mighty storm of wind and rain as none living in these parts, either English or Indians, ever saw. Being like, for the time it continued, to those hurricanes and typhoons that writers make mention of in the Indies." As Bradford's comment shows, news of the storms traveled quickly around the British Atlantic as colonization efforts proceeded during the seventeenth century. By the 1640s stories of the storms had become commonplace in letters, travelers' accounts, and official reports from the region. Writing about the wreckage caused by the 1653 storm in Barbados, Father Antoine Biet commented that "many people have described them [hurricanes], so much that it seems useless to talk about them." Nevertheless, he could not help himself and spent four pages discussing the tempest that struck a few months before he arrived.[26]

Circulation of letters and reports led to some confusion about the storms. Colonists and others sometimes mistakenly applied the word "hurricane" to any strong storm of wind and rain. One French writer suggested that hurricanes routinely struck Europe. The Puritan minister Increase Mather described "a formidable Hurricane, scarce bearing sixty yards in its breadth, and spending itself in about seven minutes of time" that hit New Hampshire in 1669. Tornadoes, wind squalls, and simply violent storms became hurricanes in numerous accounts written by those who had heard of the storms but knew little about them. Nevertheless, despite experiencing several real hurricanes during the seventeenth and eighteenth centuries, neither Virginians nor New Englanders considered hurricanes a major threat to their societies. Robert Beverley declared in his 1705 history of Virginia that "all the Annoyances and Inconveniences of the Country, may fairly be summed up, under these three Heads, Thunder, Heat, and troublesome Vermin." Despite his father's use of the word, Cotton Mather confidently informed the Royal Society in 1714 that New England did not experience "those Hurricanes to which the Caribbee Islands are subject," although he noted they did have occasional "whirlwinds." Most colonists and Europeans observers believed that the threat from hurricanes existed in a distinct zone that stretched from Barbados through Carolina. Edmond Halley claimed that the storms were "peculiar to the Caribbe Isles," with Carolina being part of "ye Indies" in the minds of many.[27]

Eighteenth-century commentators explicitly discouraged comparisons between hurricanes and other storms, especially storms in Europe. One noted

simply that "an European can form no just idea of a West India hurricane, far less of the direful effects which accompany it." William Dunbar, writing from West Florida in the 1770s, stated that "the partial hurricanes [tornadoes?] which frequently traverse this territory do not merit the name [hurricane] and ought rather to be called whirlwinds." After his experience with three hurricanes in Jamaica, Thomas Thistlewood ranked them and placed them in context with storms he knew in England. According to Thistlewood, the 1751 storm was a 6, the 1780 storm a 10, and the 1781 hurricane a 4 ½. "The greatest I ever saw at home," he concluded, was "about a 3."[28]

Increasing knowledge about the geographic boundaries of the hurricane zone was matched by the gradual realization that the storms were seasonal. Writers in the first decades of colonization thought they could strike at any time. John Taylor wrote in 1638 that it was "uncertaine" when a hurricane might hit, "for it hath no certaine or set times of either yeares or dayes for the comming of it." A 1655 pamphlet advised travelers to arrive in the region before August lest they encounter "the Hurricanes, as they call them, which are certain violent and contrary windes that doe terribly infest the Atlantick and Indian Seas all winter long, from September to March." By the end of the 1650s, colonists had learned the seasonal boundaries of hurricanes from Carib Indians. Charles de Rochefort wrote confidently in the 1660s that hurricanes came "in the moneths of July, August, or September: at other times there is no fear of it." At some point this information became a local Caribbean proverb: "June too soon, July stand by, August you must, September remember, October all over."[29]

The seasonality of hurricanes did little to assuage the fear they inspired, and colonists remained on edge throughout these months. Residents never knew if a late summer storm might foreshadow a terrible tempest. Reports from the region often noted, "This night had the forerunner of a hurricane," which was enough to cause panic among colonists. Traveling through the Carolinas in 1765, John Bartram "frequently heard ye women talk how fearfull thay was if A thunder gust arose, of ye wind tacking to ye NE & ye danger of A huricane, which I looked upon as A feminin weakness . . . supposeing thes grievous calamities came but once in an age. [B]ut upon making perticular enquiry of ye ouldest inhabitants I was satisfied that by thair frequent grevious sufferings thay had Sufficient reason for those anctious concerns." Seventeenth-century colonists and writers offered various opinions about how often hurricanes struck. Some believed they occurred once every seven years; others thought they had become more frequent by the end of the century.[30]

Most important, although colonies went years and sometimes decades without a major storm, rarely more than a year or two passed without some colony in the Greater Caribbean experiencing a hurricane. "We have just receiv'd Accounts from Antigua of the most prodigious hurricane that was ever known to blow in the Memory of Man," the governor of Barbados, Henry Grenville, wrote to his brother in September 1751. Damage from the storm topped £100,000, Grenville reported, and "as we have heard nothing yet from St. Kitts, Montserrat, or Nevis, Mankind are in great pain for 'em here." Grenville and other Barbadians counted themselves lucky to have escaped this storm, but all colonists knew it was only a matter of time before a major tropical storm or hurricane struck their settlements. As June turned to July every year, "anctious concerns" were indeed warranted.[31]

The power of hurricanes dwarfed anything colonists had ever experienced, and many struggled to describe the terror and devastation that accompanied them. Finding the right words and images to capture the horrific event and its consequences often proved difficult. The governor of Barbados, Sir Jonathan Atkins, noted that a minor hurricane in the Leeward Islands in 1674 did "inexpressible damage." When a major hurricane struck Barbados the next year, he declared, "To describe the hurricane is impossible." Another colonist noted that the "terrour" of a storm "was such yt I thought it ye Emblem of Hell & ye last dissolution of all things." Moreover, he continued, while "many who are unacquainted with ye violence of these Tempests will be incredulous, but I should be sorry yt all who will not believe this Account, Should have ye same Confirmation whc. I had." The governor of the Leeward Islands, Sir Ralph Payne, wrote that the 1772 hurricane "baffles all the Powers of Description and can only be conceiv'd by those, who were the unfortunate Victims to it." Payne did not hesitate to use the strongest language to capture some sense of the damage, stating that the "Misery and Distress from the Fury of the Storm, [was] unknown I believe before, to any Part of the human Creation." William Strachey wrote that the 1609 hurricane was so powerful that the passengers "could not apprehend in our imaginations any possibility of greater violence; yet did we still find it not only more terrible but more constant, fury added to fury."[32]

For those who experienced one, hurricanes left an indelible impression. The sounds of the storms struck many colonists; several commented on the deafening roar of the winds, rain, and thunder. Strachey recalled the "whistling" and "roaring" winds and waves during the 1609 tempest. In addition to the "ter-

rible cries and murmurs of the winds," he wrote that the storm "beat all light from Heaven; which, like an hell of darkness, turned black upon us." A survivor of the 1751 storm in Jamaica stated, "It resembled by its noise and force the explosion of cannons." Thomas Thistlewood of Jamaica wrote that the wind "roared horribly" during the 1780 hurricane. "Suppose Thunder, the noise attending an earthquake, the dashing of the sea in a trumpet against rocks, and the howling of innumerable wild beasts all intermixt, might somewhat resemble it." The noise was so great that "the largest cannon fired off could [not] have been heard at a few yards distance." Another Jamaican, William Beckford, noted that during the storm the sea "began to roar in a most tremendous and uncommon manner."[33]

The natural sounds of the storms mixed with the tremendous noise created by crashing houses, mills, and furniture in a cacophony of destruction. Beckford wrote that at the height of the storm, his house began to collapse, and the "horrid crash of glasses, furniture, and floors, occasioned a noise and uproar, that may be more easily felt, than the weakness of my pen can possible describe." Peter Marsden recalled that the "terrible yelling" of the winds "beggared all description" and, combined with the "loud and frequent . . . noise of falling buildings," created a "common horror" for all who heard the sounds. A young Alexander Hamilton living on the island of St. Croix wrote that during a 1772 hurricane the "Roaring of the sea and wind" and the "crash of the falling houses, and the ear-piercing shrieks of the distressed" combined to generate sounds "sufficient to strike astonishment into Angels."[34]

Hamilton and others also often commented on the smells the storms generated. Hamilton wrote that a "strong smell of gunpowder" filled the air. Others noted a powerful scent of salt from the large quantities of seawater thrown on shore. One Barbadian planter recalled "the very offensive smell, greatly similar to that of a putrid body, with which almost everything was affected that had been wet by the Hurricane." Indeed, many survivors noted the smell of death in the aftermath of the storms. Four days after the 1780 hurricane, Thistlewood noted an "intolerable stench in the air" along the coast arising from the "great number of putrid carcasses laying unburied." Later he wrote that the water in nearby marshes "stinks horribly." William Beckford also noted "the stench that arose from the putrefaction of the dead bodies" that littered the landscape in the wake of the storm.[35]

Accounts of hurricanes placed the greatest emphasis on the physical destruction. Colonists often included lengthy and metaphorical descriptions of

the posthurricane landscape to convey some sense of the devastation. Playing on the image of the lushness of the region, many noted that hurricanes replaced fertile plantations with bleak, wintry scenes. An account from Jamaica stated that in the wake of a hurricane, "ye whole face of nature in ye morning seem'd chang'd from a beautifull appearance of spring to ye depths of a winter, there being nothing that was green to be seen." One seventeenth-century account noted that there were no "Leaves, Herbs, or green Thing left on the island" after a hurricane, "but all look'd like Winter." Thomas Thistlewood emerged from hiding after the 1780 hurricane to find "the external face of the earth, so much altered, scarce know where I am. Not a blade of grass, or a leaf left, or tree, shrub or bush." The countryside, Thistlewood wrote, appeared "totally stripped" and "wore the appearance of the dreary mountains of Wales, in the winter season." An account from Barbados written after the 1780 storm stated that "the most luxuriant Spring changed in this one Night to the drearyest Winter." One eighteenth-century visitor, by contrast, was equally impressed by the speedy recovery of plants and trees, noting that vegetation went from "a dead Winter to a Summer, or rather Harvest, in three Weeks' Time!"[36]

Others compared the destruction to that from warfare. Surveying the devastated landscape of Barbados after the 1780 tempest, Lord George Rodney wrote, "The whole Face of the Country appears an entire ruin, and the most Beautiful Island in the World has the appearance of a Country laid waste by Fire, and Sword, and appears to the Imagination more dreadful than it is possible for me to find Words to express." One Georgia plantation manager in the early nineteenth century wrote that the posthurricane landscape "looks something like the destruction of San domingo," referring to the great slave uprising and civil war on the French sugar island. By the second half of the eighteenth century, numerous accounts invoked comparisons with the Lisbon earthquake of 1755, the most famous disaster in the early modern Atlantic world. The governor of the Leeward Islands informed English officials that the 1772 storm had caused destruction "scarcely, if at all, inferior in Horror, to the dreadful Catastrophe of Lisbon." After the 1780 hurricane, the *Barbados Mercury* reported that "some gentlemen, now here, and who were at Lisbon a few days after the earthquake, declare that this town in proportion to its size, has suffered more from the late calamity than Lisbon did at that time."[37]

The storm surge accompanying hurricanes particularly amazed colonists in low-lying coastal towns and surrounding areas. The *Weekly Jamaica Courant* reported that the "most surprising circumstance, which puts us under the

greatest Consternation" at the beginning of a hurricane in 1722 was the "prodigious swell of the sea," which lifted "several hundred Tons of Stones, and Rocks of a large size over the Wall at the Eastward part of the Town." During the 1780 hurricane in Jamaica, the sea "swell[ed] to a most amazing height, overflowing the ill-fated town of Savanna la Mar and the low lands adjacent." The "swell of the sea . . . has not left the wreck of six houses on both the bay and Savanna, and not less than 300 people of all colours were drowned or buried in the ruins." Reports stated that one of the ships in the harbor "went over the fort, the parapet of which at other times is about fifteen feet above the level of the water." A similar scene occurred during the September 15, 1752, hurricane in Charleston, South Carolina. The local newspaper reported that the "flood came in like a bore" at about 9:00 A.M. The storm surge overflowed the city, and the sea "rose upwards of Ten feet above the high-water mark at spring-tides, and nothing was now to be seen but ruins of houses, canows, wrecks of pettiauguas and boats, masts, yards, incredible quantities of all sorts of timber, barrels, staves, shingles, household and other goods, floating and driving, with great violence, thro' the streets, and round about the town." Only a sudden shifting of the winds and an immediate receding of the tides saved the city from total destruction.[38]

Beyond metaphors and general statements of awe, colonists always included specific details on the physical damage wrought by the storms in an effort both to catalog the damage and to give a sense of the power of the winds and waters. Many accounts declared that hurricanes tore up the largest trees by the roots. Indeed, this trope appears often enough that it serves as an informal gauge of the power of hurricanes: major storms uprooted trees, minor ones only damaged them. Other accounts focused on the wind's ability to move heavy objects (usually cannons or copper boilers) great distances. Inventories of damage to houses, public buildings, mills, and storehouses, along with the damage done to crops in the fields, also featured prominently in descriptions of the storms. Almost every account provided some listing of the damage to the physical and economic infrastructure of the colonies. A 1681 hurricane decimated Christopher Jeaffreson's plantation on St. Christopher, rendering his dwelling house "miserably torne, and flat with the ground" and his "sugarworke, in like manner, and all my buildings." Officials in Barbados wrote that a 1731 tempest left their "dwelling-houses, windmills, boyling-houses and other [of] their best and most substantial buildings . . . wholly demolished,

and others overset, rent, uncover'd or otherwise greatly damnify'd." One minister in South Carolina noted simply that a 1713 hurricane resulted in "much damage to our fortifications, houses, barns, and Plantations."[39]

The destruction of houses, farms, and plantations created immediate and pressing difficulties for colonists. Finding food and shelter often became literally an issue of life or death. Economic losses from damaged crops and plantations caused tremendous concern among colonists anxious to establish and maintain profitable agricultural enterprises. Damage to fortifications increased the colonies' vulnerability to attack by enemies, either external or domestic.

Beyond these immediate and practical concerns, however, hurricanes raised troubling questions about the ability of English colonists and English culture to prosper in the Greater Caribbean. Seventeenth-century colonists arrived in the New World with a firm belief that they could tame and transform the American wilderness they encountered. In the language of the time, colonists were confident that they could "improve" nature. Contemporary ideas of "improvement" denoted both specific economic projects designed to produce wealth and broader physical and cultural developments that transformed wild and uncultivated areas into civilized, productive societies. Early colonists had no romantic visions of frontier settlements, and they quickly set about establishing towns, farms, and plantations that more closely resembled the landscapes they had left behind. Even those who saw the New World as a newfound Eden believed they had a duty to cultivate and improve the land so God's new garden could flourish. After the conquest of Jamaica in 1655, one member of the expedition noted that "the Spaniard doth call it the Garden of the Indges, But this I will say, the Gardeners haue bin very bad, for heare is very litell more then that which groweth naterallie."[40]

Nothing was more important to this process of improvement than the construction of houses and fences. Both served obvious practical functions for early settlers, but they also symbolized English possession of New World lands. At St. Christopher, Thomas Warner and others settled "themselves betwixt ye two rivers . . . & began to build theire houses." Likewise, when colonists landed at Barbados in 1627, they reported that the island was "vacante, without house or inhabitants." Another early settler stated that "they planted it firste wth Corne and Cutt doune trees and made houses." By building houses and clearing and planting fields, colonists marked the land as English property. In the eyes of colonists, Native Americans living on any of these lands had no claims to ownership because they failed to make "improvements" and in-

stead let the land exist in a wild state. Indians could not claim ownership, according to John Winthrop and others, because "they inclose noe land, neither have they any setled habitation nor any tame cattle to improve the land by." Fences had particular importance because they mapped the extent of colonial landholdings and denoted the boundary between civil society and wilderness, with all its terrifying connotations.[41]

Once colonists were established, the further construction of houses, fences, and farms charted movement over time from "wilderness" to "civilization." They served as material markers of their increasing sense of domination over the natural world and as physical manifestations of their efforts to bring order to the chaotic environment of America. Colonists in the Greater Caribbean took great pride in their improvements and the transformation of the region's landscape over the seventeenth and early eighteenth centuries. Indeed, clearing lands and planting fields was done more quickly and with more dramatic results on the islands of the West Indies than on the mainland continent, where the "wilderness" seemed to stretch forever. Crude early structures and wooded areas gradually gave way to more orderly landscapes throughout the region as colonists cut down forests, established plantations, and erected towns and houses. One traveler to Barbados commented that the "number of well built houses and windmills agreeably intermixt" with fields "planted in a Mathematical regularity" gave the island as "beautiful a landscape as can be seen." Barbados appeared "pleasant . . . like unto a Garden," in the words of another seventeenth-century visitor. This process unfolded at different rates in different colonies throughout the region, but everywhere the underlying principle was the same: English culture and cultivation established sovereignty over New World lands and transformed a howling wilderness into a domesticated garden.[42]

In addition to social development, colonists also believed that their improvements changed the physical environment of the New World for the better. Cutting down trees and planting fields, for example, reduced the threat from diseases that thrived in heavily wooded areas. In his *Natural History of Barbados,* published in the mid-eighteenth century, Griffith Hughes argued that deforestation allowed for easier passage of the trade winds across the island, purifying the air. On Jamaica, too, "The plantations have made the climate much wholesomer than it was formerly," and similar reports came from South Carolina. Although by the latter part of the eighteenth century some colonists believed that deforestation had negative consequences, most remained

committed to the ideal improved landscape devoid of wild forests. By the early eighteenth century, moreover, at least a few writers implied that English improvements also reduced the frequency of hurricanes. In his 1708 history of the British colonies, John Oldmixon stated that the "dreadful . . . Hurricanes that us'd to threaten this Island [Barbados] with a general Ruin, are not so frequent as formerly." Hughes agreed, noting that "Hurricanes are much less frequent of late Years."[43]

The arrival of the next tempest violently disabused colonists of any such illusions. Indeed, on Barbados and elsewhere, English improvements exacerbated rather than diminished the devastation from hurricanes. Cutting down trees left the colonies more exposed to the power of hurricane-force winds and with fewer means to weaken storms, something that at least a few contemporaries recognized. One writer suggested that fewer trees exposed coastal estates to damaging sea spray. The larger and more elaborate buildings that colonists constructed increased the risk to residents and resulted in greater property losses if they collapsed.[44]

More broadly, the damage accompanying repeated hurricanes challenged the very concept of improvement and tested colonists' faith that they could dominate and transform American nature. As the eighteenth-century planter and historian Bryan Edwards wrote, the early colonists on St. Christopher "had their plantations demolished by a dreadful hurricane, which put a sudden stop to their progress." But hurricanes did not simply halt colonists' social and economic improvements; the storms violently and dramatically knocked them backward, reversing the trajectory of development. A 1667 hurricane in the Leeward Islands "reduced most of those miserable people to their first principles," commented one local official. One seventeenth-century Barbadian planter wrote that "sometimes we suffer by extreme Droughts, and sometimes by continual violent Rains. And a sudden Gust will tear or maim our Windmills. But if a Hurricane come, it makes a Desolation: and puts us to begin the World anew." Many colonists had come to the New World with the hope of starting the world anew, but none anticipated or wanted such regular opportunities to put their hopes into practice.[45]

Colonists found themselves suddenly returned to a state of nature in the aftermath of hurricanes, their efforts to establish a civilized society literally demolished. Everywhere they turned, they encountered a landscape that represented social degeneration rather than social development. Formerly neat rows of valuable crops suddenly lay torn and twisted, and "the necessities of

life . . . are wasted and corrupted." Fences were "laid flat" by the storms. The violence of a hurricane "overthrows Houses [and] . . . makes a general waste of all it meets with in the Fields; and in a word, leaves famine all over the Country, which groans a long time after that disaster," wrote one seventeenth-century traveler. The storms threw "down the most solid buildings, and destroy[ed] the plantations." In the wake of hurricanes, "the surface of the earth is truly bared, everything is swept from it with irresistible violence." Devastated colonists faced the prospect of the total "Subversion of their Houses, and the ruine of their Families and Estates by Hurricanes."[46]

Colonists tallied these losses to property in monetary terms, as we shall see, but they also measured them in cultural terms. The destruction accompanying hurricanes inverted the series of binary oppositions that shaped English perceptions of the New World and that colonists used to define themselves and their colonial projects—the concepts of nature versus culture, savage versus civilized, wild versus cultivated, chaos versus order, waste versus improved. The storms destroyed the symbolic markers of English culture and social order. Hurricanes "materially affected and changed the common order of things," wrote one eighteenth-century commentator. The widespread damage and disruptions reversed the existing social hierarchy as the grand were made low and "all artificial distinctions [were] levelled in the dust." Big planters who had occupied refined houses suddenly found themselves living in the huts of slaves. The governor of the Leeward Islands reported in 1772 that he and his wife were living in an "outhouse." That storm literally dismantled the structure of government in the islands: the governor informed London officials that the "Partitions which separated the Chambers of the Council and Assembly, and form'd an intermediate Lobby, are no more, and the whole remains one ruinous undivided Space." Official government papers were either lost or rendered useless. After the 1780 hurricane in Barbados, colonists encountered a landscape in which a "promiscuous mass of ruins" littered streets previously graced by buildings of "splendour and opulence."[47]

Many individual colonists found themselves stripped of the trappings of English culture—their clothes, belongings, and houses. Colonists had "neither victuals to eat, dry cloathes to put on, or a house to shelter in," wrote Christopher Jeaffreson after a 1681 hurricane. Governor Nicholas Lawes of Jamaica reported, "Wee were left destitute of any other covering than the Heavens," in the wake of a 1722 storm. After the 1772 hurricane in St. Croix, "whole families [were] running about the streets," recalled Alexander Hamilton, "unknowing

where to find a place of shelter; the sick exposed to the keeness of water and air without a bed to lie upon, or a dry covering to their bodies; and our harbours entirely bare." The clothes of one Jamaican colonist "were all torn from his body" during the middle of one hurricane in 1780. The military commander of Barbados in 1780 reported that after the great hurricane of that year he was "oblidg'd for some days to wear Negroes clothes, which I had borrowed."[48]

The destruction of clothing and shelter represented individual manifestations of a larger social degeneration as civilized society devolved into "wilderness." The new state of nature wrought by hurricanes was temporary, to be sure. Elites immediately began rebuilding, and by commandeering any surviving structures, even slave quarters, they attempted to reassert their relative social position. But rebuilding took time, and often months and sometimes years passed before colonists could reconstruct, or reimprove, the physical—and accompanying social—landscape of cities and plantations. In the meantime the damaged buildings and scarred lands provided vivid reminders of the power of American nature and the fragility of English improvements.[49]

Colonists elsewhere in America expressed similar concerns about social degeneration—that the American wilderness was overwhelming English culture and improvements and reducing colonists to a wild state. Colonists in New England, for example, articulated many of the same fears about the loss of houses and clothing during King Philip's War in the mid-1670s. No other colonists, however, faced such routine threats to their lives, to their economic interests, and to the basic infrastructure of society as those in the Greater Caribbean did from hurricanes. Bad weather distressed colonists in New England and the Chesapeake, but houses remained, lives were not lost, the landscape remained ordered. Indians could be, and were, defeated, and over time the danger of Indian attacks receded in the colonists' minds, at least in coastal settlements. Such victories joined the catalog of events and processes by which they measured their improvement as a society.[50]

Colonists in the Greater Caribbean tallied no such victories. Hurricanes remained an "enemy," in the words of one eighteenth-century historian, that could not be defeated. The governor of the Leeward Islands in 1772 wrote of an "agreeable Delusion" that filled the minds of many in the region, "that the Crisis of the Hurricane Season was past." A major hurricane a few days later revealed the "Vanity of these Hopes . . . with a Severity of Proof, that has never been parallel'd, in the Memory of the Oldest Inhabitant of this Part of the Globe, or perhaps, in the Annals of Ancient or Modern History." Some

colonists periodically told themselves that the threat from hurricanes had diminished, but the storms always returned to dash any such "delusions."[51]

The threat from hurricanes helped create a sense of fragility and uncertainty among colonists as the possibility of violent destruction and chaos hovered over the region each year. Although colonists who migrated to the Greater Caribbean shared the basic ideas of improvement with others in British America, experience with hurricanes forced them to temper their expectations and acknowledge their vulnerability to larger environmental forces. Instead of confidence in the improvements they had made, they remained uncertain of their future prospects, always wary of what could happen "if a hurricane comes." Property in the region was "exceedingly precarious," wrote one eighteenth-century visitor to Jamaica, and so too was the broader society. Hurricanes generated such dread among colonists, wrote another traveler, because a storm "destroys at a stroke the labours of many years, and prostrates the most exalted hopes of the planter, and often just at the moment when he thinks himself out of the reach of fortune." Charles Leslie stated that a planter "trembl[ed]" at the thought of hurricanes because the storms threatened his life and "his Estate." Considering "how uncertain are our possessions," wrote the Jamaican planter William Beckford in the wake of the 1780 hurricane, it was "somewhat extraordinary" that planters "should commit our present happiness to the instability of climate . . . to the terrors of the tempest, or the pestilential dangers of the calm." No one living in the region could long maintain the belief that improvements charted steady progress and development toward metropolitan models and ideals, or that English culture had transformed American nature, when hurricanes routinely returned them to if not a state of nature, then something close to it.[52]

In the aftermath of major hurricanes, colonists again began the project of improving the landscape and recreating English cultural and social norms as best they could. But prospects for the future required constant qualification, as did any celebration of what they had achieved. The mangled fields and shattered buildings that littered the landscape in the wake of violent hurricanes provided frequent and potent reminders of the power of nature in the New World and the precariousness of colonists' position within it. Regardless of their success in building houses, establishing towns and plantations, or replicating English cultural life, by the end of the seventeenth century colonists had learned that such efforts were temporary and that they remained one storm away from "beginning the world anew."

When the governor of Barbados wrote to London officials in 1677 that "they have escaped the hurricane this year, to the great encouragement of the people," he articulated the colonists' sense of the fragility of the settlements they were developing. The physical environment posed a number of obstacles to early colonists, but hurricanes quickly became the most feared element of the natural world from Barbados through Carolina. Hurricanes marked the Greater Caribbean as a distinct region in British America, and the ferocity and frequency with which they struck settlements contributed to the development of a distinct mentality during the seventeenth and eighteenth centuries. The encounter with hurricanes necessitated a reconsideration of many fundamental ideas about the nature of the societies and plantations they hoped to establish, and of the balance between natural forces and human enterprise. All colonists worried about the challenges posed by the American environment, but none faced such routine threats of complete devastation. Although years sometimes passed with only minor disruptions and small economic losses from summer tropical storms, the threat of major physical and economic disruption, of returning to "first principles," remained constant. More important, the repeated destruction ensured that the colonists' efforts to settle the region both literally and metaphorically remained an ongoing project.[53]

CHAPTER TWO

# "A Conspiracy of the Winds"

The presence of hurricanes made colonists question their ability to transform the hostile environment of the Greater Caribbean, and by extension their ability to establish successful and stable societies there. But hurricanes raised other questions as well: What caused them? What forces gave rise to such powerful and dangerous storms? Colonists who struggled to make sense of hurricanes during the seventeenth century drew on a variety of intellectual paradigms and traditions. For some—probably a significant majority during the first several decades of the seventeenth century—the storms came directly from the hand of God. They interpreted hurricanes as "wondrous events," divine judgments for human sins. Others linked the storms to various natural processes, including shifting wind patterns, the explosion of various chemicals in the atmosphere, and the celestial movement of planets and stars. Whatever interpretation they advanced, all agreed with one seventeenth-century commentator that "so General a Conspiracy of the Winds . . . which so much disorders the Frame of Nature, must necessarily proceed from some very extraordinary cause."[1]

Explanations for hurricanes remained eclectic throughout the seventeenth and eighteenth centuries, and colonists continued to debate their possible

causes and the meaning of the destruction that accompanied them. By the latter part of the seventeenth century, however, a notable shift in language and emphasis characterized most accounts of storms. Colonists no longer viewed hurricanes as "strange" and "unusual" but saw them as routine and expected. Commentators increasingly discussed the natural processes that gave rise to hurricanes, and fewer accounts contained explicit moralizing or recitations of the communal sins that had warranted God's wrath. Although the exact mechanisms at work in the storms remained a mystery, writers spent more time outlining natural forces than reflecting on divine justice. A number of factors influenced this shift in emphasis, but none were more important than greater experience with hurricanes and increased observation of their physical characteristics. As colonists gradually adjusted to the environment of the Greater Caribbean, they altered their ideas about what constituted ordinary and extraordinary events in the natural world. Hurricanes, once so strange, became common—an accepted part of the natural order. Hurricanes remained "acts of God," but unlike early interpretations of the storms as special providences sent by God in response to specific human transgressions, by the turn of the century colonists increasingly viewed hurricanes as part of God's general providence, arising from fixed natural processes observable to humans. By the middle decades of the eighteenth century, some even argued that the storms were beneficial, increasing rainfall and clearing the air. These shifting interpretations of hurricanes, and the operations of the natural world more generally, mirrored intellectual changes in England during this period, but colonists' ideas about hurricanes remained grounded in their specific experiences.

Native people throughout the Caribbean basin linked hurricanes to supernatural forces. In some cultures the word *huracan,* which appears in a variety of spellings, signified a powerful god who threatened native peoples and lands with destruction. According to one early seventeenth-century English account, Indians on St. Christopher viewed Hurry-Cano as a "tempestuous spirit." In Mayan culture, *hurakán* was one of the three most powerful forces in the pantheon of deities, along with *cabrakán* (earthquakes) and *chirakán* (volcanoes). Other observers suggested that natives did not view the storms themselves as deities but rather saw them as under the control of some supernatural spirit or god. Among the Taino Indians, a female *cemí* (spirit) named Guabancex controlled the storms: the Spanish missionary Ramón Pané stated

that when angered Guabancex, along with two attending *cemís,* "makes the winds and waters move and casts houses to the ground and uproots the trees." Representations of Guabancex portrayed her head as the eye of the storm, with twisting arms symbolizing the swirling winds. Another sixteenth-century Spanish account stated that "when the devil wishes to frighten [the Indians] he threatens them with a *huracan,* which means storm."[2]

Similar accounts emerged from encounters with the Carib Indians. The French traveler Charles de Rochefort wrote that when thunder clapped, the Caribs "make all the haste they can to their little houses, and sit down on low stools about the fire, covering their faces and resting their heads on their hands and knees, and in that posture they fall a weeping and say . . . Maboya is very angry with them: and they say the same when there happens a Hurricane." Several elderly Caribs stated that hurricanes had became more frequent in recent years, which they viewed as a punishment for their interactions with Europeans. "Our people are become in a manner like yours, since they came to be acquainted with you; and we find it some difficulty to know our selves, so different are we grown from what we have been heretofore: It is to this alteration that our people attribute the more frequent happenings of Hurricanes." Whether the storms were gods or simply sent by gods, a proper sense of deference and supplication was required. Natives in the islands engaged in ritual purification and sacrifice and offered songs and dances to help ward off the storms. According to the historian Inga Clendinnen, the Mayan people of the Yucatán peninsula made human sacrifices during the hurricane season to appease the mighty god and to protect themselves.[3]

English colonists who settled in the Greater Caribbean at the start of the seventeenth century adopted the native word for these terrifying and novel storms and relied on native informants to know when storms would strike, but they rejected native ideas regarding the origins of hurricanes as the superstitious beliefs of heathens. Instead, they placed the storms and questions about their origins within existing English intellectual paradigms, even as new experiences and discoveries in the New World cast doubt on those paradigms.

In the early modern English world, explanations for natural calamities, including great storms, drew on several overlapping intellectual traditions, most notably astrology, natural philosophy, and providentialism. Providentialism was the most important of these, particularly during the first half of the seventeenth century. The doctrine of Providence gave divine meaning to all events in the world. The Protestant deity was an activist who regularly inter-

vened in the affairs of the world, causing comets to streak across the sky, earthquakes to rumble underfoot, and storms to rage in the air. Such "wonders" were not random; they were sent by God specifically to castigate, correct, warn, or save wayward humans. Contemporaries viewed the natural world as a "theater" in which God's power, mercy, and most frequently wrath appeared for all to see and contemplate. According to the New England minister Increase Mather, "Tempests, Floods, Earth-quakes, Thunders as are unusual, Strange Apparitions, or what ever else shall happen that is Prodigious, Witchcrafts, Diabolical Possessions, Remarkable Judgments upon noted Sinners; eminent Deliverances, and Answers of Prayer; are to be reckoned among Illustrious Providences." One Jamaican minister wrote on the anniversary of the 1692 Port Royal earthquake, "Calamities and Judgments are not the product of Blind Chance or Fortune, but are directed and consigned by the infinite and unfathomed Wisdom of Heaven, for very generous and noble Ends, either for the Amendment of mens Lives, or for the Vindication of his own Justice." Sin, the minister stated plainly, "is the cause of all Calamities and Judgments."[4]

In contemplating natural events, colonists and others recognized a distinction between "ordinary" or "general providences" and "special providences." The former denoted the regular operations of the natural world that followed laws God had established, while the latter signified an interruption of those general operations, an event so unusual or spectacular that it could happen only by direct divine intervention. Although contemporaries recognized that storms and other calamities might arise from natural or secondary causes, most viewed disasters as special rather than general providences. Indeed, the spectacular damage and destruction accompanying large-scale natural disasters lent themselves to providential interpretations. Such events were "visible sermons" signaling divine displeasure with the world or foretelling a worse fate to come if colonists did not repent and reform their wicked ways.[5]

These special providences also served as "national judgments." God, seventeenth-century thinkers argued, could punish individuals after their deaths, but countries or communities could be punished only in this world, and earthquakes, storms, droughts, and famines became the tools of divine justice by which God chastised nations for their collective sins and transgressions. The "hurts, damages, Irrecoverable losses and hinderances men have sustained by tempestuous winds," one English writer noted after a 1613 storm, represented "true tokens that our merciful God is highly offended with us." Another called on his "deare countrie men of England" to recognize the "dreadful

trumpets of God's wrath" in the stormy winds that struck that year. Increase Mather put it more bluntly after a 1706 calamity: "There never happens an earthquake but God speaks to men on the Earth by it: And they are very stupid, if they do not hear his Voice therein." Even when contemporaries debated whether a particular event arose from God's general or special providence, as happened after a 1590 earthquake in England, few questioned the idea that the disaster represented a sign from God with a warning to be heeded.[6]

Providentialism provided the initial lens through which colonists to the Greater Caribbean viewed the new and "strange" storms they encountered in the early decades of the seventeenth century. John Smith's account provided few details on how colonists in St. Christopher made sense of the 1620s storms, but accounts from the following decades suggest that they interpreted them as special providences. "God, who is every way infinite and incomprehensible, is pleased sometimes in his just Judgments, to punish or restraine by Terrours and Affrightings, most obstinate and rebellious sinners," wrote John Taylor in a pamphlet detailing a 1638 storm in St. Christopher. "For those that will not lovingly be allured to obey him for his Goodnesse and unspeakable Mercies, will be fearefully inforced to abide the rigour of his most upright and severe Justice, by which means Hee makes his wayes to be knowne upon Earth, and his saving health amongst all Nations."[7]

Taylor, who did not experience the storm himself but gathered accounts of it from returning sailors, saw the hurricane as providential, although the message was less clear. On the one hand, Taylor implied that God sent the storm to punish the heathen Caribs, perhaps for their interactions with the devil. He noted that "where God is least knowne and honoured, there the Devill hath most power and domination," and it was in the Caribbean islands, home to many "Heathens, Indians, and barbarous Nations unconverted. . . where this Hurri cano is frequent." Other observers saw the Indians' ability to forecast the onset of a storm by the number of circles around the moon as evidence that the Caribs engaged in "witchcrafts." Even though they relied on Indians for knowledge about the storms, many colonists believed such information came from "Councel with the Devil."[8]

Conversely, Taylor suggested that the storm served as a sign of God's goodness and a message to colonists to convert the Caribs. He noted that "hee that drew light out of darknesse, hath often (and can when he wil) draw good out of evill" and cited as an example the use of slavery to convert other heathen peoples to "civility and Christian Liberty." He also cited the discovery and

settlement of Bermuda after the wreck of the *Sea-Venture* during a 1609 hurricane as a "remarkable proofe" of God's mercy. Passengers on that ship reached the same conclusion: although "tempests, thunders, and other fearful objects" were common near the "Devils Islands," wrote William Strachey, "it pleased our merciful God to make even this hideous and hated place both the place of our safety and means of our deliverance."[9]

God sometimes used terrible storms to bring good out of evil, but more often the widespread death and destruction wrought by hurricanes and other disasters signaled his displeasure with sinful humans. An account of a 1667 hurricane in Virginia described the storm as a "Judgment" for colonists' "sins" and "our evil way." The Quaker Sophia Hume wrote that the September 15, 1752, hurricane in South Carolina "was a humbling visitation from the most high God," sent as a "Mark of his Displeasure against your Transgressions; and at the same time, an Evidence of his Compassion towards you." She highlighted the colonists' focus on wealth and secular affairs at the expense of spiritual matters and explicitly linked the neglect of God's word to the multiple troubles that had plagued the colony during the previous twelve years, including war, slave rebellion, fire, and most recently, the two hurricanes.[10]

Colonists responded to hurricanes and other demonstrations of divine wrath with a day of public fasting and prayer. Fast days called on colonists to humble themselves before God for their individual and communal sins and reaffirmed a sense of community among victims. (Thanksgiving days celebrated God's mercy in delivering them from danger.) Fast days followed major disasters in all parts of the British Atlantic world during the seventeenth and eighteenth centuries, and although there is little specific evidence of them in the Greater Caribbean in the wake of hurricanes during the seventeenth century, colonists likely employed this familiar ritual to help make sense of the devastation. Colonial officials in the region routinely proclaimed days of fasting or thanksgiving in response to other events: a day of fasting occurred during a "grievous sickness and pestilential distemper" in Barbados in 1671. Officials there called for another fast in response to the defeat of "hellish plot" against the king by "Popish recusants" in 1679. Antiguans celebrated a day of thanksgiving "for deliverance from a hurricane and for fine weather" in October 1683. It thus seems likely that colonists humbled themselves by fasting when hurricanes did strike.[11]

Fast days in the Greater Caribbean would have followed the form and language of similar ceremonies elsewhere in the British Atlantic world. Fasts

usually lasted one day, during which people refrained from food and "recreation." They stopped work and gathered in local churches to offer communal prayers and hear sermons relating to the calamities and their own transgressions against God's laws. Days of thanksgiving entailed feasting rather than deprivation, but communal prayer was again central.[12]

Ministers usually emphasized two themes in their fast-day sermons. First, they stressed that the destruction wrought by hurricanes or other disasters was fully warranted as a punishment for colonists' manifold transgressions against God and his laws. Colonists needed to look no further than their own actions to explain the death and destruction that surrounded them. Disasters resulted from human sin, and ministers did not hesitate to detail the particular behaviors—often lewdness, drunkenness, and desecration of the Sabbath by profane actions—that justly provoked God's vengeance.[13] Second, while colonists fully deserved the suffering accompanying disasters, God showed great mercy in not annihilating them completely. After the 1667 hurricane in Virginia, one anonymous commentator wrote, "God doth not for every small sin send a great Judgment, but being like a loving Father, First he admonisheth and warneth of our sins." The hurricane was such a warning, the author believed, but if sin persisted in Virginia, "He will utterly destroy us." Storms and other calamities were judgments, but they also illustrated God's infinite mercy and served as calls for repentance and reformation.[14]

Most early colonists in the Greater Caribbean likely interpreted hurricanes as providential, but some offered other explanations for the storms, including astrological ones. Astrology formed an important part of the mental world of English people during the early modern period. Ministers railed against its practitioners, particularly those who sought to predict the future, but astrology nevertheless enjoyed a significant following. Unlike astronomers, who were concerned with the actual movements of celestial bodies, astrologers connected changes in the movements of planets and stars to events and phenomena on earth. A distinction existed between natural astrology, which investigated the relation between the stars and macro events like the weather, and judicial astrology, which was more controversial because it connected heavenly movements to the affairs of individuals, but both sought explanations for events in the changing heavens.[15]

Astrological beliefs and practices attracted a significant following among colonists. A number of almanacs were published for the islands during this period, most of which contained the standard "man of signs" and prognostica-

tions about a variety of issues, although they offered no specific weather predictions. (The August 1675 prediction that "the Retrogradation of Saturn can never be ill to the English in America" proved a bit optimistic in light of the hurricane that leveled Barbados that month.) One seventeenth-century visitor to Jamaica reported that many colonists fled Port Royal when an astrologer predicted in March 1686 that a great earthquake would level the city. After the 1692 earthquake that did destroy the city, one minister linked the devastation to "so strange and universal a Tendence" among Jamaicans "to Consult Astrologers in their usual Undertakings." Denouncing "that horrid Profession," he declared the earthquake a just punishment for colonists' reliance on such practices.[16]

There is little direct evidence of colonists' offering astrological explanations for hurricanes, but it seems highly likely that some would have done so, particularly once they learned that Carib Indians forecast the onset of storms by watching for rings around the moon and other celestial signs. Indeed, despite his emphasis on the divine origin of hurricanes, John Taylor offered a brief aside in his 1638 pamphlet suggesting an astrological explanation. He noted that "sometimes [a hurricane] comes but once, or never in a mans age to one place, and more often to another, according as it is sway'd or hurried with its owne robustuous motion, or as the influences and force of the Planets doe drive it." Such ideas retained currency well into the eighteenth century: after the September 1769 hurricane on the Carolina coast, the governor of North Carolina reported that "this hurricane is attributed to the effect of a blazing planet or star that was seen both from Newbern and here rising in the east for several nights." How widely such views were shared is unclear, but at least some colonists connected the storms to the movements of the planets and stars.[17]

In addition to astrology and traditional providentialism, other colonists drew on the broad range of ideas that existed under the term "natural philosophy" to explain hurricanes. Early modern natural philosophy argued that fixed operations governed many natural phenomena in the universe. Recognizing God as the ultimate, or final, cause of all events, including "wondrous" calamities, seventeenth-century natural philosophers nevertheless suggested that many arose from processes God established to regulate the natural world. Such events reflected his general governance over the world, and natural philosophers sought to understand and explain these "secondary" or "mechanical" causes of events like hurricanes. In the favorite metaphor of the time, the universe was a giant clock, with God as the clockmaker, and the op-

erations of the world exhibited a mechanical regularity observable to humans. Such regularity testified to the omnipotence of its creator, and many argued that reading and studying the book of nature complemented the reading and studying of scripture. "Natural philosophy is after the word of God at once the surest medicine against superstition, and the most approved nourishment for faith, and therefore she is rightly given to religion as her most faithful handmaid," wrote Francis Bacon.[18]

Early modern natural philosophers built on the ideas outlined in the writings of ancient philosophers, and Aristotle's *Meteorologica* in particular. The ideas presented in the *Meteorologica* formed the foundation for all contemporary ideas about the workings of the natural world. Aristotle believed that winds and weather resulted from the heat of the sun, which raised exhalations and vapors from the earth. When the sun's rays fell on land, they produced hot and dry exhalations; when they fell on bodies of water, moist and cool exhalations (called vapors) resulted. The combination of exhalations in the air gave rise to various weather events, including rain and storms.[19]

Aristotelian ideas regarding exhalations provided the broad intellectual foundation for natural philosophers, but the privileged position of Aristotle and other ancient writers in early modern intellectual life was also being contested by the emergence of the "new science" during the seventeenth century. Building on discoveries about the physical universe and the natural world, including the discovery of America, "new scientists" rejected arguments based on classical textual authorities and substituted direct observation and experimentation as the foundation for any understanding of natural processes and events. Such methods seemed particularly important for understanding new natural phenomena in America, of which the ancients had no knowledge. "Experience" rather than scholastic learning, many writers argued, should provide authority in debates about the workings of the natural world. Prefacing a lengthy treatise on winds written in 1671, for example, the Oxford scholar Ralph Bohun wrote, "I have no intention to disparage the Authority of the Ancients; but I cannot be so injurious to the many noble productions of our present Age, to think that all Science is only to be fought for in the Urns of the Dead." Instead, Bohun wrote, his ideas about winds and storms, including hurricanes, were "not to be had in Colleges or Books, but must be fetch't fro[m] both Indies."[20]

The institutional epicenter of the new science in England was the Royal Society, established in London in 1660. In an effort to encourage the systematic

gathering of empirical data regarding New World natural phenomena, including hurricanes, the Society sent those journeying to America long sets of questions about the climate, flora, and fauna of the colonies. For example, it asked Sir Thomas Lynch, appointed governor of Jamaica in 1670, to report on "Whether there be any Hurricans about Jamaica? And whether those, yt haue been in such winds, haue found it exceeding cold? Whether in Hurricans, ye wind varieth all points of ye Compass; and ceaseth, when it comes East?" Another set of questions sent to a different correspondent asked how often the storms struck, what signs preceded "huracans," and "why they never fall out but in ye months of July, August, and September?" Following the dictates of Sir Francis Bacon, the goal of such inquiries was to establish a natural history of uncontested "facts," based on direct observation of events. Only after accumulating such facts could writers advance new theories about the causes of various natural events. As a result, seventeenth-century accounts of hurricanes often contained lengthy descriptions of the storms and their effects, but only brief speculations on their causes. The great traveler William Dampier, for example, spent several pages discussing hurricanes and detailing their characteristics, comparing them explicitly to typhoons in the Pacific Ocean, but he did not offer any thoughts on their causes.[21]

Most writers, however, could not help themselves, and after recording the conditions before the hurricane, the movement of the storm, and the resulting damage in their best Baconian fashion, they offered their thoughts on the natural mechanisms that produced these terrifying tempests. Some explanations built directly on Aristotelian principles. In his 1680s history of Jamaica, John Taylor speculated that the "Huricans" that plagued the English Leeward Islands (but not yet Jamaica) arose from exhalations trapped in "Grosse" clouds. These exhalations eventually broke out and "mixt with a Presterick Flame" in a violent motion that reverberated in the air, resulting in a hurricane. According to Taylor, some colonists believed that the ultimate origin of the storms lay in the melting snows of the "northern and remote Countreys," which produced large quantities of exhalations. The exhalations, trapped in clouds, then became an "Ecnephias [thunderstorm], and by its fire breaking forth a perfect Typhoon." Such ideas came from Aristotle, who argued that the melting snows of the polar region produced great quantities of exhalations, which in turn fueled strong "Etesian" winds after the rise of the "dog-star" in late July.[22]

Others sought to distance themselves from the ancients by emphasizing the experiential foundation of their ideas about hurricanes. Ralph Bohun never

visited the West Indies, but he stated that his information came from conversations with "the most experinc'd of our Sea Captains" who had been in the storms. Likewise, a ship captain named Langford wrote that his information regarding hurricanes was "back'd with Experience," and he listed the dates of the several storms he had encountered on his travels in the region. Bohun, Langford, and others offered a variety of explanations regarding the natural causes of hurricanes, but two theories became common during the second half of the seventeenth century, and both, despite the rhetorical emphasis on direct experience, retained elements of Aristotelian thought.[23]

The first posited that hurricanes resulted from the changing relation between the usually dominant easterly trade winds and westerly winds during the late summer months. Captain Langford's account, published in the *Philosophical Transactions of the Royal Society* in the 1690s but based on his experiences with several hurricanes in the 1650s and 1660s, provided one of the earliest and fullest presentations of this theory. Langford suggested that "all Men that have been in those parts [the West Indies]" observed that tempestuous weather followed the sun's return southward after having reached its "Zenith" at the Tropic of Cancer. The reason for this, Langford explained, was that as the sun left the region, the "Easterly Wind doth much decay of his Strength," while the west wind, otherwise checked "by the Power of the Sun," gains strength and "encroaches" on those parts normally dominated by the east winds. "When this Hurricane, or rather Whirl-Wind, comes in Opposition to the constant Trade-Wind, then he pours down with that Force and Violence that it exceeds all Storms of Wind in the World." That "all Hurricanes begin from the North to the Westward, and on those Points that the Easterly Wind doth most violently blow, doth the Hurricane blow most fiercely against it" served as a key piece of evidence for Langford. Ralph Bohun agreed, writing that "I think it cannot be rationally disputed, but that those direfull Tempests have their first rise from the Western Continent" and that the first sign of the onset of a hurricane was "the shifting of the Trade-Wind from the Easterly Points." Several writers, including Langford, suggested that Jamaica's apparent immunity from hurricanes resulted from its mountainous interior, which acted as a barrier, preventing the easterly and westerly winds from meeting.[24]

The confusion about the northern and western origins of the storms likely resulted from the counterclockwise rotation of hurricane winds, which can make it seem as though hurricanes themselves came from those points. It was not until the mid-eighteenth century that Benjamin Franklin recognized that

the movement of the storms could differ from the direction of the winds. Likewise, although some commentators such as Langford and William Dampier discussed hurricanes as "whirlwinds," indicating some knowledge of the storm's structure, the idea that hurricanes spiraled around a central vortex was not known widely until the nineteenth century. Colonists recognized that the storm winds blew from all directions—one seventeenth-century commentator described a hurricane as a "general conspiracy of all the Winds, which goes about the Compass in the space of 24 hours, and sometimes in less." Many also recognized that a period of calm often occurred during the middle of a tempest, before the storms "began afresh" from another direction. Nevertheless, neither colonists in the region nor others elsewhere in British America during the seventeenth or eighteenth century developed this information into a theory of large, circular windstorms.[25]

Instead, many eighteenth-century colonists held to the basic etiology outlined by Langford, that hurricanes emerged from a conflict between the easterly and westerly winds. The Jamaican planter and historian Edward Long, for example, writing in the 1770s, noted that hurricanes struck after the sun's return from the Tropic of Cancer. Because the sun heated and rarefied the air, "currents of denser air may rush from the climates further North; which, coming in opposition to the regular trade, may produce variable winds and calms, followed by terrible gusts." Long was unclear about how hurricanes were produced by this process, but he noted that all storms began from the north and suggested that "a very extensive and unusual rarefaction of the atmosphere in some one place" was a necessary condition. Likewise, Benjamin Moseley maintained in a 1787 tract that the "influx of dense air rushed in from the polar regions, and the great western continent," after the sun's "northern declination at this season of the year," resulting in a "great conflict" with the eastern winds and producing a hurricane. The hurricane veered from all points of the compass "until an equilibrium is restored, and nature composed, by the eastern winds regaining their course." Another late eighteenth-century account noted that "as none of the hurricanes come from the East, that is, from the Great Sea, . . . one is tempted to think that they are all formed on the continent of America, by the impetuous concourse of opposite winds." In the wake of the 1780 hurricanes, one commentator commented, "Philosophers have thought, that these phaenomena are in some degree generated by accumulated blasts of wind from the vast lakes in North America, about the autumnal equinox."[26]

The naturalist John Bartram offered a twist on the contrary winds theory to explain the tremendous storm surges that accompanied many hurricanes in South Carolina. Bartram wrote that hurricanes originated in the West Indies and wondered whether the storms in South Carolina resulted from the "southern Huricanes turned upon ye Continent by A northerly wind, which setting against ye gulf stream raiseth ye water, and ye east wind Joyning ye north heaves ye ye [*sic*] water upon ye shoal wide coast & bay, & forcing ye stupendious roleing billows up ye river [and] overwhelmeth ye adjacent land." Mark Catesby also suggested that "violent storms" in South Carolina "commonly happen about the time of the hurricanes that rage so fatally amongst the Sugar Islands between the Tropicks, and seem to be agitated by them, or from the same cause."[27]

The second theory regarding the natural forces at work in hurricanes posited a chemical or mineral explanation for the storms. Beginning in the sixteenth century, several natural philosophers in England suggested an analogy between gunpowder explosions and weather events like thunder, lightning, and earthquakes. One seventeenth-century writer even suggested that the "imperfect" understanding of meteorology among the ancients came from an ignorance of gunpowder. Various weather events, the theory went, resulted from explosions generated by the combination of sulfur and niter in the air. Such ideas soon found their way into accounts of hurricanes. Although Ralph Bohun noted that contrary winds might explain hurricanes, he also wrote that earthquakes, volcanoes, and "Violent Tempests, like Hurricanes" often happened at the same time and resulted from the same cause: "The Nitro-Sulphureous spirit which causes the Trembling of the Earth . . . may afterwards break loose into the most Horrid conflagrations, and Winds." The combination of "these Thundering Minerals" likely gave rise to the violent winds of hurricanes, though Bohun was unclear on exactly how. Later in his essay he stated that a "Collection of some Saline and Sulphureous spirits, in the Regions of the Air, that encountering each other, may by their violent Disposition be principally concern'd in the Production of Hurricanes." Isaac Newton offered a similar thesis, writing that "Tempests and Hurricanes" developed from the "Vapour generated by the explosion" of "Sulphureous streams [that] abound in the Bowels of the Earth."[28]

Like the idea of contrary winds, chemical explanations retained currency in the eighteenth century. John Atkins, a ship's surgeon who survived a 1722 hurricane in Jamaica, combined chemical and Aristotelian ideas to explain the

devastating tempest. He wrote that the cause of hurricanes, "as guessed at, is Plenty of elastic Vapors on the Terra Firma (whence they all blow)." Atkins noted that hurricanes often followed particularly hot and dry periods, which allowed for greater openings in the earth and thus a "freer Emissions of nitrous, sulphurous, and elastic Particles." The combination of these elements ultimately gave rise to hurricanes.[29]

Some evidence for the role of minerals came from the smells accompanying the storms. Alexander Hamilton stated that "a strong smell of gunpowder added somewhat to the terrors of the night" during a 1772 hurricane on St. Croix, and that "the rain was surpizingly salt." The water on the island after the storm was also "so brackish and full of sulphur that there is hardly any drinking it." Ralph Bohun reported that several accounts described the rains before hurricanes as "bitter, and salt as the Sea-Water." Chemical explanations, however, also had their detractors. Edward Long ridiculed a proposal put forth by the prominent English natural philosopher Stephen Hales, who suggested that because hurricanes were caused by a large amount of "inflammable sulphureous vapours" in the sky, they might be prevented by using lit "sky-rockets" to ignite the vapors before they had gathered in sufficient number to produce a storm. The experimental fireworks would provide a "pleasing sight," Long remarked, but otherwise the idea reminded him of the "impudent quack at Port Royal, who after the earthquake, in 1692, advertised his 'specific pills to prevent earthquakes.' "[30]

Both theories regarding the origins of hurricanes—contrasting winds and chemical explosions—remained common throughout the eighteenth century. But one notable new theory emerged during the second half of the century. Some writers, building on Franklin's work with electricity, posited a connection between electricity and hurricanes. In his "conjectures" regarding hurricanes written after the 1780 storm and deposited among the papers of the Royal Society, Gilbert Blane noted that the density of air was affected by a variety of factors, including its altitude, temperature, and the "electricity it contains." Building on earlier theories, Blane wrote that hurricanes arose from some disturbance that allowed higher, colder air to crash down into regions usually characterized by warmer air. The origins of this disturbance arose from a combination of the "recess of the Sun" across the region in the late summer months and the high mountains on many islands in the region, particularly the Leeward Island chain, which further disrupted the atmosphere and "second[ed] each other's efforts in attracting the electricity & oversetting

the balance of the atmosphere." Blane concluded that "the effects of high lands in condensing vapor, especially in the torrid zone, seem to depend on an electrical principle." After experiencing a 1779 hurricane in Louisiana, the Scottish planter William Dunbar likewise noted that both "hurricanes and perhaps the gentlest zephyers are connected with electrical phaenomina," although he did not explain how. He suggested that the calm eye of the storm might result from the absence of electricity: "May we then be permitted to suppose that by the violent operation of natural agents (of which we can form no conception) the electric fluid has been in a manner abstracted from the central parts of the hurricane (which we may consider as a vortex) and a species of vacuum formed with respect to the electric fluid." William Thorton wrote in the 1790s that "the Phenomena of Hurricanes and general Earthquakes I have no doubt, depend on the same Cause, Electricity," but he chose to describe the process by which electrical fluid gave rise to the latter rather than the former.[31]

As colonists and others advanced and debated various hypotheses about the natural causes of hurricanes, they remained well aware of the incompleteness and inadequacy of their theories. In positing his explanation for the storms, Langford noted, "This is so difficult a Matter, that I do expect great Objections thereto." When the great astronomer Edmond Halley presented a paper on tropical winds to the Royal Society in 1687, he omitted any discussion of hurricanes, stating that "their violence is so unconceivable, and their other Phenomena so surprising, that they merit well to be considered apart." Almost a century later, and after dozens of accounts and reports about hurricanes, Edward Long wrote simply, "The mechanism of these storms does not yet seem to be satisfactorily explained." His fellow planter-historian Bryan Edwards concurred: "Their immediate cause seems to lie far beyond the limits of our circumscribed knowledge."[32]

Although the "mechanism" that generated hurricanes remained a mystery to colonists, the sense that the hurricanes developed from fixed natural processes grew more pronounced by the end of the seventeenth century. Hurricanes remained "dreadful visitations of the Almighty," and the level of devastation they wrought continued to terrify and amaze those who witnessed them. Nevertheless, accounts increasingly portrayed the storms as part of the larger natural order rather than as wondrous and unusual deviations from it. The use of fast days in the region reflected these shifting attitudes. Within a

providential framework, fast days were affairs of the moment, called in response to specific events and circumstances as a means of responding to a particular judgment God had cast down on his wayward followers. By the 1680s, however, fast days and thanksgiving ceremonies had become prescribed events in several colonies. Alternate Fridays during the months of August, September, and October were designated fast days in St. Christopher in 1683. That tradition continued in the Leeward Islands into the eighteenth century. The local minister in Nevis wrote in 1724 that the last Fridays in the months of July, August, and September were "appointed by an ancient Custom of the Governt. in this Island to be observed as days of Fasting, that being the Season of the year which we call Hurricane Time, and ye 2nd or 3rd Thursday of October as a day of Thanksgiving every year when there has been no Hurricane." A terrible storm struck the island of St. Croix on October 25, 1791, "the very day, on which, by a rule of the island, our churches return thanks yearly, in case no hurricane has happened." The switch to set fast days suggests that hurricanes had ceased to be strange or unusual events and had become expected.[33]

These changing attitudes about hurricanes in the Greater Caribbean mirrored intellectual developments in England, where belief in "wonders" declined among many of the learned elite during the second half of the seventeenth century, replaced by more "mechanical" explanations. This shift in emphasis reflected a number of forces. New scientific developments, which allowed for a greater understanding of the operations of the natural world, as well as greater control over it, made providential interpretations unnecessary in some instances. Political unrest accompanying the English Civil War also played a role. During the war, many Anglicans grew frustrated with radical sectarian interpretations of wondrous events, which they believed contributed to social disorder. After the Restoration, Anglicans, particularly those who came to be called Latitudinarians, embraced new ideas that stressed the order and regularity of the natural world, finding in that image of nature a model for their vision of English society. Finally, emerging ideas about cultural refinement undermined belief in wonders among some of the elite. Self-conscious intellectuals embraced the principles and ideas of the new science to distance themselves from the "vulgar" excesses of the masses—often even before the scientific principles had been fully demonstrated.[34]

All of these factors likely had some influence on colonists in the Greater Caribbean. Certainly they lacked the sense of communal and religious mission and enthusiasm that characterized the Puritan settlements of New England

and that for much of the seventeenth and early eighteenth centuries helped to sustain a belief in wonders and special providences, especially regarding natural disasters. Moreover, by the end of the seventeenth century some colonists had established connections with the Royal Society. They likely were conversant with the latest ideas and theories about the natural world circulating among the elite in England and were interested in portraying themselves as part of a transatlantic community of enlightened gentlemen.[35]

More than any other factor, however, increased experience with hurricanes shaped colonists' understanding of the storms and their causes. As colonists grew more familiar with hurricanes, and with the climate and environment of the Greater Caribbean more generally, they came to appreciate certain characteristics of the storms that lent support to mechanical rather than providential explanations. First, colonists gradually learned that hurricanes struck within a well-defined season. Early colonists believed that hurricanes could strike at any time, but by the middle of the seventeenth century most recognized that there was a distinct hurricane season. Numerous letters and reports specifically discussed the period between July and October as the "time of hurricanes." William Dampier stated that hurricanes were "expected yearly in their proper months" by colonists in the West Indies. One visitor to Nevis in the 1670s wrote that he arrived during "the tyme of the Harricane (by the Vulgar called Harry)." He noted that "Harry being expected ye people generally had pack[ed] up their goods insomuch that in many houses common necessaries could not be had or seen." The seasonality of the storms did much to undermine the interpretation of hurricanes as special providences. The idea that God would limit his punishments or portents to certain months contradicted the fundamental premise of a special providence sent in response to specific transgressions.[36]

The frequency of the storms similarly undermined providential interpretations. Hurricanes simply occurred too often for them to remain unusual or wondrous in the eyes of most colonists. One seventeenth-century traveler to the West Indies wrote that hurricanes repeatedly struck all the colonies in the region, "some one year, some another; and some of them have felt two or three hurricanes in the months of July, August, and September." Bohun noted that hurricanes had become major "subjects of our Gazets; and scarce a year passes but we have Accounts from the American Plantations, of the Damages they have sustain'd by Hurricanes." By the second half of the seventeenth century, colonists expected hurricanes to strike every year in some part of the region,

and even if they escaped the storms, they knew about their effect on neighboring colonies. During the summer months, colonists "dreadfully apprehend the hurricanes," wrote one official in June 1671. That colonists anticipated hurricanes, and did so within certain months of the year, suggests that the storms had ceased to be wondrous events. Increased experience did not make hurricanes any less terrifying, but it did make them appear less as divine judgments and more as part of the natural world.[37]

Experience shaped interpretations of other natural events that struck frequently in the region as well. The great naturalist Hans Sloane reported that colonists in seventeenth-century Jamaica viewed earthquakes as "common" and expected to experience at least one every year. One minister's account of the great 1692 Port Royal earthquake is particularly illuminating. The Reverend Emmanuel Heath was a relative newcomer to Jamaica in 1692. On the morning of June 7 he entered a local tavern in Port Royal and sat with the president of the island's council. The two men were talking and smoking when Heath suddenly felt a "rowling and moving under my feet." The panicked Heath turned to his friend to ask what was happening. The president replied, "It is an Earthquake, be not afraid, it will soon be over." The President's dismissal was a bit premature, and he and Heath were soon scrambling for their lives as the city collapsed in what turned out to be the great disaster of the seventeenth-century British Atlantic world. Nevertheless, earthquakes were so common in Jamaica that experienced colonists did not even flinch when the ground started to shake, much less begin reflecting on sin and divine judgment. Thomas Thistlewood noted a similar response to violent thunders common in Jamaica a few years after he arrived on the island in 1750. Increase Mather may have believed that all earthquakes carried the voice of God, but clearly many Jamaicans did not. The same principle shaped colonists' interpretations of the storms: "minor" hurricanes or tropical storms could not be shrugged off as easily as minor earthquakes, because even these lesser storms caused considerable damage, but by the second half of the seventeenth century they were no longer strange and unusual events.[38]

In addition, the geography of hurricanes challenged the concept of the storms as "national judgments" by which God spoke to a specific group of people. Individual storms routinely struck various islands colonized by different European powers. A 1707 tempest, for example, leveled the English Leeward Islands, the Dutch islands of Saba and St. Eustatius, and the French island of Guadeloupe. In 1674 a Dutch attack on the French islands was thwarted by a

hurricane, which also caused damage in the English Leewards and in Barbados. After hearing the news of a 1751 hurricane that struck the Leeward Islands, the governor of Barbados wrote to England that "Mankind are in great pain for 'em here: some of the French Islands must have unavoidably felt the same fate." Such widespread devastation across political boundaries made it increasingly difficult to interpret hurricanes as divine disfavor against one nation or another, even though French and English colonists continued to see other events, including victories during war, as evidence of God's providence.[39]

Finally, colonists slowly learned from Native Americans in the region that a series of "signs" or "prognosticks" preceded hurricanes and provided a means of forecasting their onset. As early as the 1630s, English colonists reported that Carib Indians knew when storms would strike by the number of rings that appeared around the moon: three rings meant the storm would come in three days, two rings meant two days. The connection between such signs and the onset of hurricanes, however, remained unclear to colonists through the middle of the seventeenth century, and they relied on native informants to warn them of oncoming storms. Captain Langford wrote that both English and French colonists in the Leeward Islands "send, in about the Month of June, to the Native Caribees of Dominico and St. Vincent, to know whether there would be any hurricane that Year; and about Ten or Twelve Days before the Hurricane came, they did constantly send them Word; and it very rarely or seldom failed."[40]

By the 1660s, colonists had learned enough to make their own forecasts. Langford offered the most detailed description of the signs preceding a storm, which he claimed he had learned from a captured Indian slave. Hurricanes, he wrote, struck during the late summer months at the "Full, Change, or Quarters of the Moon." On the day before the storm, "you will see the Skies very turbulent, the Sun more red than at other times, a great Calm, and the Hills clear of Clouds or Foggs, over them, which in the high Lands are seldom so," he continued. "Likewise in Hollows, or Concaves of the Earth, or Wells, there will be a great Noise as if you were in a great Storm, and at Night the Stars looking very big with Burrs about them, and the North West Sky very black and foul, the Sea smelling stronger than at other times, as usually it doth in great Storms; and sometimes that Day, for an Hour or Two, the Wind blows very hard Westerly, out of his usual Course. On the Full of the Moon, you have the same Signs, but a great burr about the Moon, and many times about the Sun."[41]

Other colonists emphasized different signs. William Dampier claimed that changing cloud colors indicated the onset of a storm. "The edges of these Clouds are guilded with various and frighting Colours," he wrote. "The very edg of all seems to be of a pale fire colour, next that of a dull yallow, and nearer the Body of the Cloud, of a Copper Colour." The combined spectacle "looks very terrible and amazing even beyond expression." Such clouds did not appear before every tempest, according to Dampier, but all storms followed some signs that were "plain enough if well observed." Several accounts also suggested that the sea and air became very calm and quiet before a hurricane, and that birds came down from the mountains. "By these signs, together with the season, in which these happen, the hurricanes are expected."[42]

These various signs or precursors provided key evidence for the natural rather than supernatural origin of events. Members of the Royal Society, interested in the connection between natural warnings and the onset of hurricanes, asked one correspondent several questions about the signs associated with the storms, particularly if hurricanes were "preceded with an extreme calm, and ye raine that falls a little before, be bitterish and salty as Sea-water? And whether Birds come downe from ye hills?" Indeed, the connection between natural precursors and hurricanes was so widely accepted by the early eighteenth century that the absence of various signs no longer suggested divine intervention but meant that the storm was not a hurricane. James Knight wrote that a "Violent storm" that struck Jamaica in September 1734 and caused significant damage to sugar canes and plantain walks was not a hurricane. According to Knight, colonists had not seen "those Symptoms or Notices, which usually precede such Weather in this part of the world." This contrasted with the 1722 hurricane, when the "inhabitants had some Prognostics." Likewise William Smith, a minister on Nevis in the mid-eighteenth century, reported that local residents had informed him of the various "Symptoms, Fury, and Effects" of hurricanes on his arrival on the island. As a result, although Nevis was struck by several "outragious Storms," Smith felt confident that "there happened no Hurricane whilst I continued Rector of St. John's Parish." Conversely, confused Leeward Islands residents "saw all the signs that are [here] believ'd to be the Prognosticks of an Hurricane" in June 1733, but because the signs appeared so early, they did not take the proper precautions. The signs proved accurate, however, and a major storm swept across the island shortly thereafter.[43]

Interestingly, few colonists made use of the barometer to predict storms. The barometer was developed in the middle of the seventeenth century, and

members of the Royal Society began sending the instrument to correspondents in the West Indies by the 1670s—earlier, apparently, than the instruments appeared in North America—sometimes with the express purpose of gathering information on hurricanes. Sir Peter Colleton sent several baroscopes to Barbados in 1677 in order "to examine whether they would be of any use for the foretelling the seasons & mutations of the weather as they are found to doe here, especially concerning harricanes." Ralph Bohun speculated in 1671 that "there might be excellent use made of the Barometer for predicting of Hurricanes," based on accounts of its use by "a Person of Quality" who lived near the sea and who had observed movement in the instrument before storms. Some early accounts indicated that this might indeed be the case. A report to the Royal Society in the 1680s stated that "Quicksilver" in barometers in Barbados did not react "unless in a violent storm or hurricane."[44]

Use of barometers, however, was not widespread, nor were their results viewed as trustworthy. Barometers were expensive, and even those who had the instruments had trouble using them. Sir William Beeston, governor of Jamaica in the 1690s, recorded barometric observations for the Royal Society but became frustrated because the instrument registered no change for several weeks. A Mr. Crisp writing from St. Christopher noted that he had set up the instrument "According to the Rules writt and demonstrated to me at Gresham Colledge but I conceive it will not do in this climate. It never alters where it first fixt at that degree opposite to Stormy for 3 months together, although ye weather Changed 100 times in that time." Lionel Chalmers made systematic readings of the thermometer in Charleston, South Carolina, during the eighteenth century but only occasionally recorded barometric readings. The idea that some basic correlation existed between the barometer's mercury and weather conditions continued to gather adherents during the eighteenth century, but enough exceptions existed to cast doubt on the instrument's ability to forecast weather generally and hurricanes specifically. One frustrated correspondent to the Royal Society wrote that no one on Barbados made use of either a barometer or a thermometer before, during, or after the 1780 hurricane.[45]

Uncertainty about the barometer's accuracy meant the older native traditions of forecasting storms based on observable natural prognostics remained central to the discourse regarding the onset of hurricanes. The basic signs Langford outlined in the 1690s remained in circulation throughout the eighteenth century and were republished in learned cyclopedias and other texts. Indeed, some writers championed native knowledge against more learned

methods for understanding events like hurricanes. One eighteenth-century visitor to the region wrote that "ignorant country people and barbarous nations, are better observers of times and seasons, and draw better rules from them, than more civilized and reasoning people, for they rely more on experience than theories." He regretted that native ideas were often "rejected as chimerical in the gross by many literati, who are not near so nice and circumspect as they ought to be in distinguishing what this sort of people may be very competent judges of, and what not."[46]

At least one source claimed that eighteenth-century ship captains "send to the negroes to know whether there would be any [hurricanes] within a week or ten days," but such positive statements about slaves' knowledge of hurricanes were rare. More often colonists contrasted their "enlightened" interpretations of hurricanes with what they saw as the backward and superstitious beliefs of African slaves. In a thanksgiving sermon after the 1780 hurricane, one minister preached that it was "shocking . . . to see those poor black men and women, falling down and worshipping the first tree to which they can run, in the hour of their danger or distress, and humbly and fervently 'beseeching for aid, that which is impotent to save!' " Africans, like English colonists, had little experience with hurricanes, although tornadoes are frequent in West Africa, and it seems likely that slaves made some connection between the two. Charles Leslie suggested that eighteenth-century slaves in Jamaica worshipped "two Gods, a good and a bad One." According to Leslie, "The evil God sends Storms, Earthquakes, and all kinds of Mischief." The Jamaican penkeeper Thomas Thistlewood noted that slaves in Westmoreland parish connected the "bad weather" and ensuing 1780 hurricanes to the burial of a local merchant named Cholman: "The Negroes say him (Cholman) and the devil were playing cards together, which occasioned the storm."[47]

Such evidence suggests that some slaves may have viewed the storms as divine punishment while others saw them as hazards created by a devil figure. It seems probable that African attitudes about hurricanes evolved along with Europeans ones over the seventeenth and eighteenth centuries, although what form that evolution took is not entirely clear. Slaves almost certainly learned to search the skies for signs of coming hurricanes and shared with English colonists a general sense of the hurricane season, but few colonists commented on African attitudes or knowledge about the storms. When they did, such comments were often negative. One visitor to Jamaica in the early nineteenth century, for example, wrote that slaves considered hurricanes "indica-

tions of the divine wrath, as punishments inflicted by heaven on the human race for their crimes and impiety; they have no idea of their arising from natural causes; the necessary war of elements is to them an incomprehensible doctrine." The slaves, he claimed, "did not look much to natural causes and remote consequences."[48]

Experience—in the form of greater knowledge about the frequency and seasonality of the storms and the signs that preceded them—pushed colonists toward an understanding of hurricanes as part of the natural order of the region. Despite the devastation that accompanied them, colonists increasingly viewed hurricanes as "orderly" events in that they struck at relatively fixed times and in relatively fixed places and were preceded by signs that suggested a connection to other natural forces. Some colonists, including Edward Long, questioned why the storms were not more "regular and uniform," since they seemed to strike at random times and places during the late summer months, but he also noted that residents were "seldom taken unprepared" by the storms because of the signs and "prognostics" that preceded them during the acknowledged hurricane season.[49]

Providential interpretations, however, did not cease during the eighteenth century. Some colonists continued to see hurricanes, or at least particular storms, as special providences under the immediate and direct control of God. The *South Carolina Gazette* reported that the shift in wind direction during the height of the September 15, 1752, hurricane, which saved the city from total destruction by flooding, was "as signal an instance of the immediate interposition of the Divine Providence, as ever appeared." Others remained certain that the storms signaled divine wrath and judgment. Sifting through the debris on his Barbados plantation after the devastating 1780 hurricane, one of William Senhouse's slaves uncovered a collection of sermons by the English minister John Tillotson. Senhouse read Tillotson's comments that "if the hand of God be severe, and heavy upon us, in any affliction, we may be assured that it is not without great cause that so much goodness is highly offended and displeased with us." Senhouse wondered rhetorically whether the terrible destruction was "directed by chance or by the immediate Providence of God, which suffers not a sparrow to fall to the ground without its knowledge, and numbers the very hairs of our head!!" The relative absence of hurricanes for some time in Barbados reinforced the idea that this storm had divine causes. The hurricane, the local newspaper

wrote, came from the "a venging" hand of God, and it encouraged colonists to seek forgiveness "for those things which has occasioned him thus to pour down his fury upon us." The governor of the Leeward Islands called for a day of thanksgiving because their islands were spared the destruction visited upon Barbados.[50]

Providential interpretations were especially common after severe tempests or when some unusual occurrence marked the storm. South Carolina officials, for example, authorized a day of thanksgiving in November 1752 after two hurricanes struck the colony in September. The governor had called on residents to "humble themselves" in the wake of the first storm, but he did not order a day of fasting or thanksgiving. The governor of the Leeward Islands called for a general fast in the wake of the devastating 1772 hurricane. Jamaican officials instituted a perpetual fast after the hurricane of August 28, 1722, which struck ten years to the day after an earlier storm. No fast appears to have been called after the hurricane on August 28, 1712, but when a second storm struck exactly ten years later, many questioned whether natural forces alone were at work. Unusual circumstances or intense hurricanes thus still brought forth a sense of wonder and left a deep impression in the minds of those who survived them. August 28 remained a "red-letter day"—an important date or public holiday—on Jamaican calendars and almanacs throughout the eighteenth century, as did the perpetual fast on June 7, established in memory of the Port Royal earthquake. According to Charles Leslie, these fast days were "most devoutly kept. The People have at least on these Days the exterior Shew of Religion, and they may be called the only two Holy-days in the Year, for on Sundays, there's little difference to be observed."[51]

Such ceremonies, however, often carried different messages than had their seventeenth-century predecessors. Ministers still discussed sin as a cause of hurricanes, but only in the most general terms; missing were the catalogs of specific sins and transgressions that marked earlier sermons. Some tempered their portrayal of hurricanes as divine punishments with images of a benevolent and merciful creator. Officials in the Leeward Islands called the 1772 fast so colonists could "return our Humble Thanksgiving to Almighty God for his Mercy in Preserving us from the Perils & Dangers of the late Dreadful Hurricane." The opening prayer of a fast-day service held on the anniversary of the 1780 Barbados hurricane began, "O Lord, correct me, but with judgment, not in thine anger." Acknowledging "our many sins and provocations," the service followed the standard form for Anglican holy days with a few alterations re-

ferring specifically to the hurricane. Perhaps most significant, the service drew on Psalm 46: "God is our hope and our strength: a very present help in trouble. Therefore we will not fear, though the earth be moved, and though the hills be carried into the midst of the sea." While earlier ministers emphasized the horror of hurricanes and the fear of judgment that such calamities rightly fostered among sinful and wicked humans, this anonymous Bridgetown minister and others stressed God's protection and the security that came from faith. Providential interpretations continued to find adherents in the wake of some storms during the eighteenth century, but the meaning attached to such calamities was altered as colonists increasingly offered explanations and interpretations that emphasized God's general rather than special providence.[52]

Ideas about hurricanes continued to evolve in other ways as well. As colonists increasingly linked hurricanes to the larger natural order of the region, some suggested that the storms must, by extension, play some complementary role in that order. If the wisdom of a beneficent God had created hurricanes as part of his design for the physical environment of the Greater Caribbean, the argument went, then such terrible and destructive storms must have some salutary purpose as well. This optimistic argument from design, which saw the wisdom of God manifested in nature, found a number of adherents in the Greater Caribbean. The *Weekly Jamaica Courant* proclaimed in the wake of the 1722 hurricane, "We have a good deal of reason to believe [hurricanes] are well ordered, this consideration should induce us to bear up chearfully, under our misfortunes." The French traveler Pierre Charlevoix believed that "Providence, and a great minister who should intimate Providence, often gain their ends by means that seem most contrary to them." Charlevoix argued that the storms increased rainfall in the region, yielding bountiful crops. Hurricanes, he believed, were "as necessary to the well-being of things as calm and sunshine," and "this as it is well known is the order of nature." William Thorton noted that because "hurricanes are generally accompanied by heavy rains," some English planters on St. Croix even occasionally "wish[ed] for a *Hurricane,* which they say is better than *No Cane.*"[53]

Hurricanes brought other benefits as well. Many Barbadian colonists noted that the 1780 hurricane destroyed the sugar ants that had plagued planters during the previous decade. The planter William Senhouse wrote that the storm also eliminated the "black blast, which had been so prejudicial to the canes," although he lamented that the hurricane also drove hummingbirds

from the island. Several residents of different colonies suggested that hurricanes helped purify the air. "Notwithstanding the damages sustained by individual persons on such occasions," stated the South Carolina naturalist Lionel Chalmers, "the want of such tempests for many years together, is probably a great misfortune to us: because the air does not receive so frequent and thorough ventilations, as might be conducive to health, in such a climate as that of South Carolina." In a report to the Royal Society, one traveler noted that the 1780 hurricane improved the health of colonists in Barbados: "Far from [the hurricane's] having been productive of sickness, there has been less of that since, and even most who labored under disease at the time, benefited by it." Edward Long argued, "Hurricanes are always accompanied with great rains, and a cool state of the air; however destructive therefore they may be in some respects, they fertilize the earth, purge the atmosphere from malignant vapours, and bring with them a healthful season." For Long, such benefits pointed to the wisdom of God's creation, and he quoted from a text by Sir John Pringle: "Let us still trace and revere the ways of a beneficent Being, who not fortuitously, but with design; not in wrath, but in mercy, thus shakes the waters and air together, to bury . . . putrid and pestilential effluvia."[54]

Not all observers viewed hurricanes in so charitable a light. That the natural world had some order did not mean that such an order was beneficial. The naturalist Mark Catesby questioned claims that the natural world was orderly and predictable or, if it were, that humans could decipher any laws or patterns in it. Catesby instead emphasized the violence of the natural world, based in part on his experience with a hurricane in South Carolina in the 1720s. Even Long noted that while hurricanes might answer to "some wise, and perhaps salutary purpose in the economy of nature . . . it must be owned, that they are a sort of medicines extremely rough in their operations." Nevertheless, he maintained that each new discovery regarding the operations of the natural world provided "new testimony of the divine Wisdom" and, as a result, "in this pursuit, tempests, volcanoes, lightning and earthquakes, begin to lose their horror; . . . we cannot but respect them as necessary and propitious."[55]

Long and others found in such arguments a means to domesticate hurricanes and to make them less horrible and terrifying. The storms arose from natural forces, and the glory and wisdom of God appeared in the operation of those forces. Although destructive, hurricanes testified to the power, magnifi-

cence, and ultimately benevolence of the creator, who balanced destruction and loss with renewal and growth. Awe, rather than fear, constituted the proper response to hurricanes and other large-scale calamities.

Other eighteenth-century writers, however, reversed this emphasis: they stressed the terror hurricanes engendered, suggesting that such feelings provided the most powerful testimony of God's omnipotence. God's presence manifested itself less in the order of nature than in the disorderly elements and actions of the natural world. Such arguments did not represent a return to seventeenth-century providential thinking: they made no effort to see the storms as signal instances of divine intervention in response to human sins. Rather, these writers posited that great storms and other such events stimulated reflection upon the creator in ways that no ordinary event or process could match. The English essayist Joseph Addison stated that although he appreciated the beauty and vastness of the seas and recognized the presence of God in them "even in a calm," his thoughts and emotions were most powerfully affected by a storm at sea. "When [the sea] is worked up in a tempest, so that the horizon on every side is nothing but foaming billows and floating mountains, it is impossible to describe the agreeable horror that rises from such a prospect," he wrote in 1712. "Such an object [the storm] naturally raises in my thoughts the idea of an almighty being, and convinces me of his existence, as much as a metaphysical demonstration." For Addison, the storm was not a special providence but one natural force that testified in especially powerful ways to the presence of a divine creator.[56]

Feelings of "agreeable horror" and the inability to express them constituted the intellectual foundations of the sublime, an aesthetic category that gained widespread currency during the eighteenth century. According to Edmund Burke, "Whatever is fitted in any sort to excite the ideas of pain and danger, that is to say, whatever is in any sort terrible . . . is a source of the sublime." The sublime invoked feelings of danger and helplessness mixed with awe, reverence, and astonishment. Burke's definition of the sublime, however, required a degree of physical distance: it comprised the feelings produced by contemplation of danger from afar. "When danger or pain press too nearly," he wrote, "they are . . . simply terrible."[57]

Hurricanes pressed too near and produced too much destruction and pain for colonists in the Greater Caribbean to view them as purely sublime. Nevertheless, the storms were the grandest and most spectacular manifestations of God's power that they experienced. No part of the natural world provoked

terror and astonishment as readily as hurricanes, and many colonists invoked the language of the sublime to describe their encounters with the storms. "Who could stand amidst the ruins of a falling world, undisturbed?" asked one Jamaican colonist in the aftermath of a 1751 hurricane. "A few such events as these would ruin us in temporals, but would help us in spirituals, and make us fit for the kingdom of Heaven." The grandeur and immensity of violence accompanying hurricanes invoked the majesty and terror of God. "Good God! What horror and destruction," wrote a young Alexander Hamilton, recalling his experiences during a 1772 hurricane on the Danish island of St. Croix. "Its impossible for me to describe or you to form any idea of it. It seemed as if a total dissolution of nature was taking place." Hamilton's emotional response to the storm did not result from "too much natural fear or a conscience over-burthened with crimes of an uncommon cast." Rather, his emotions arose from the "scenes of horror exhibited around us, [which] naturally awakened such ideas in every thinking breast." He noted further that the storm, "which, in a calm unruffled temper, we call a natural cause, seemed then like a correction of the Deity."[58]

Other colonists invoked the concept of the sublime more directly in relating their experiences with hurricanes. The Jamaican planter William Beckford spent several pages in his *Descriptive Account of Jamaica* detailing the ravages of the 1780 hurricane. The landscape the previous day appeared teeming with "prospects of plenty, . . . the charms of cultivation, and the promise of abundance," but such scenes "were to be at once annihilated by that extensive and melancholy view of desolation and despair." Like others, he spoke of his inability to capture the horrible power of the storm and the "unspeakable distresses" it occasioned. The aftermath of the storm "presented us with a prospect, dreary beyond description, and almost melancholy beyond example," and Beckford became the "feeble recorder . . . [of] objects of the sublime and terrible, which have changed and disfigured the face of the country." Linking the hurricane and the 1692 Port Royal earthquake, Beckford wrote, "there is something tremendously sublime" in contemplating the death and destruction wrought by these two calamities.[59]

By the second half of the eighteenth century, several poets who had spent time in the Greater Caribbean invoked the sublime horror of hurricanes in literary works. The storms in their poems became symbols of the power of nature in the New World. "Say will my Shenstone lend a patient ear/And weep at woes unknown to Britain's Isle," wrote James Grainger in his 1764 georgic *The Sugar Cane* (referring to the English naturalist William Shen-

stone). Contrasting the impact of hurricanes with the eruption of Mount Etna, Grainger wrote,

> Yet not vext Aetna's pillar'd flames, that strike
> The stars; nor molten mountains hurl'd on high;
> Nor ponderous rapid deluges, that burn
> Its deeply channel'd sides: cause such dismay,
> Such Desolation, Hurricane! as thou.

Grainger noted that the destruction caused by hurricanes posed particular threats to sugarcane (and planters' profits). More important, the storms marked the physical environment of the Greater Caribbean as distinct from Europe and represented the power of natural forces in this part of the New World. John Singleton provided even more vivid descriptions of the storms in his "topographical" poem *A General Description of the West Indies,* published in 1767:

> The dreadful storm from ev'ry quarter howls
> And the distracted deep runs mountains high;
> Waves dash on waves, opposing foam to foam.
>
> . . . . . .
>
> The Heav'ns themselves, descending, seem to rush
> from out their lofty spheres, and falling, mix
> Celestial waters with the ocean brine.

Singleton tried to capture the storm in words:

> Ear-deaf'ning claps of thunder rend the air,
> Kindling on high the elemental war
> Till with th' astounding crash all aether shakes
> Havock let loose, strews earth and seas around
> With devastation wild; grim visag'd death
> In various shapes appears.

In the end,

> the howling tempest spent,
> Ruin subsides, and all is hush'd around.[60]

These poems were part of a larger eighteenth-century aesthetic movement, centered in Europe but reaching throughout the Atlantic world, in which

"grand Nature" became a source of artistic inspiration for novelists, poets, and painters. Such celebrations of "wild" nature represented a rejection of Enlightenment ideals of order and regularity. They also reflected the increased distance that separated European elites from the natural world more broadly: the mostly cultivated lands of Europe meant that wilderness was a rarity, something to be sought out on special trips. That was not the case in the New World, and for most colonists in the Greater Caribbean nature generally, and hurricanes in particular, remained an active force in their lives, not an aesthetic ideal. Nevertheless, the language and imagery of the sublime provided an important means for recording the powerful emotions hurricanes engendered, and such language permeated narrative as well as poetic accounts of the storms during the second half of the eighteenth century.[61]

Hurricanes remained extraordinary events for colonists in the eighteenth century and beyond, because the storms remained terrifying, and terrifyingly destructive. Whether they viewed the storms as part of some larger order or stood trembling before the awful majesty and brutality manifested in the howling winds and pounding rains, colonists continued to be fascinated and humbled by hurricanes. Two centuries of experience, however, had altered their attitudes and ideas about the storms. If hurricanes remained extraordinary and even wondrous, it was not because they were unusual and providential. By the end of the seventeenth century, hurricanes had become expected and, at least among a few colonists, occasionally even welcomed. Colonists continued to view the storms as divinely ordained, as "acts of God," but their emphasis shifted from linking hurricanes to an interventionist creator punishing sin and portending future judgments to offering more general acknowledgments of God's providence and the natural world he had created.

It is possible that interpretations of hurricanes were more varied, complex, and contested than those described above. Evidence of religious and intellectual attitudes and practices among white colonists in the Greater Caribbean, and their interpretation of hurricanes specifically, is limited and fragmentary. For example, almost no sermons exist for the seventeenth century and good parts of the eighteenth, so assessing the specific religious ideas about hurricanes, and the natural world more generally, is difficult. Moreover, members of the learned elite composed the vast majority of the material that has survived, and the speculation in their writings on the natural forces at work in hurricanes may not represent the ideas of most white colonists. Historians of

science and religion have argued increasingly that a variety of beliefs flourished in England and the northern colonies during the "enlightened" eighteenth century, especially among common people. Large-scale disasters in particular continued to provoke debate, even among the learned elite, about the natural or supernatural causes of such events and what meaning, if any, should be attached to them.[62]

The Greater Caribbean, however, was not England, or New England, or New York, and several factors suggest that ideas about hurricanes, and the natural world more broadly, differed from those in other regions of the British Atlantic world. First, the lessons drawn from increased experience and observations of the storms were disseminated among all segments of society. The basic ideas that Captain Langford and others had learned from Carib Indians in the seventeenth century regarding the seasonality of hurricanes and the signs associated with them were now common knowledge and crossed economic and educational boundaries. No one social group had special knowledge about the storms. In addition, the series of revivals known as the Great Awakening—which scholars argue contributed to a revitalization of wonder culture among segments of the colonial population and to a split between learned and popular conceptions of disasters, particularly in New England, during the middle decades of the eighteenth century—had relatively little impact in the Greater Caribbean. Elite and popular conceptions of the natural world may have varied, but no intellectual or social crisis emerged among colonists over such beliefs.[63]

Most important, the frequency and ferocity of hurricanes (and other calamities) altered all colonists' perceptions of what constituted a disaster. The natural world of the Greater Caribbean was a violent world, and the more time colonists spent in the region, the more accustomed they became to the realities of the physical environment. Events that produced great spasms of sermonizing, pamphleteering, and religious awakening elsewhere often passed with little notice, especially in the sugar islands. Minor storms and other calamities in New England, for example, routinely resulted in a flood of sermons outlining the sins of the populace and the judgments of God. Prominent natural philosophers and theologians in England often interpreted disasters, most of them relatively minor events in terms of physical damage or loss of life, within a providential framework and as national judgments. In the Greater Caribbean, by contrast, only the most devastating hurricanes or those marked by unusual circumstances occasioned such intense reflection on

divine retribution. Hurricanes remained acts of God, but colonists increasingly emphasized that the storms arose from natural forces under his general providence, not as special judgments for the sins of individual colonies or colonists. Certainly religiosity helps explain reactions to various calamities in different parts of British America, but environmental factors also played a pivotal role. Living in the Greater Caribbean meant coming to terms intellectually with a distinct and violent natural world.[64]

CHAPTER THREE

# Weathering the Storms

Henry Laurens had high hopes for his economic prospects in September 1772. The wealthy South Carolina planter and merchant was in London at the time, but all reports from his plantations said the rice and indigo crops were flourishing. Nevertheless, Laurens warned that such reports should be treated with caution. "For my own part," he wrote to one correspondent, "I never draw conclusions of the quantity of a Crop of Rice before Harvest is fairly over. A Hurricane in August or September & even so late as October in a backward Season will spoil one half or two thirds of the whole quantity in Field." Each year as summer turned to fall, anxiety about hurricanes filled Laurens's writings. When news from South Carolina was slow to arrive in London, Laurens "fear[ed] that Some disaster by Hurricane" was the cause of delay. "We have lately had excellent Seasons for our Rice," he wrote in August 1764, "whereby the Crops are greatly refreshed and barring Hurricanes will be very large." The next month he reported, "We have exceeding fine Harvest weather & the Hurricane Season steals off in smiles. A fortnight more will secure a very large Crop of Rice, Corn, & pease & a tolerable good one of Indigo."[1]

For Laurens and others, planting in the British Greater Caribbean was a volatile and uncertain business. Sugar and rice plantations generated tremendous profits and made the planters there the richest colonists in British America, but both crops required large capital investments in land, labor, and equipment, and planters needed skillful management and good luck to navigate the numerous "Risques . . . Calamities, Losses, Inconveniences, Labours and Fatigues" that threatened production. Drought, insects, warfare, and slave rebellions, to say nothing of changing market conditions in Europe, made agriculture in the region, in the words of one planter, "the most uncertain production upon the face of the earth." Plantership, wrote one absentee sugar planter, resulted in "infinite fatigues of body and mind" and necessitated deep pockets (or strong credit) to survive its constant and rapid fluctuations. "Whoever has a property in the West Indies must make up his mind to the sudden transition from good to indifferent news." To succeed in the Greater Caribbean, wrote Edmund Burke, one had to embrace "risk and hazard . . . and . . . put no medium between being great and being undone."[2]

Nothing contributed more to this atmosphere of volatility and risk than the great storms that swept across the region each summer. As we have seen, some planters came to believe that hurricanes increased rainfall and thus aided plantation production in the long run. For most, however, any environmental advantages accompanying the storms paled beside the threat of immediate damage and losses. Indeed, hurricanes occupied a special place atop the planters' hierarchy of risk. Planters worried about drought and other weather factors, but hurricanes were "the most terrible calamity to which they are subject from the climate."[3] The storms routinely caused major damage to sugar and rice plantations, significantly reducing production while requiring additional expenditures to purchase provisions and supplies, rebuild damaged buildings, and replace equipment and possibly slave laborers killed during the calamities. Most planters survived these economic shocks, often with the help of credit extended by English merchants or local lenders, but at times, particularly in the sugar islands, hurricanes were the breaking point for marginal or heavily indebted planters, forcing them to give up their properties. Such bankruptcies, in turn, helped consolidate sugar estates into the hands of the richest planters or, later in the eighteenth century, resulted in the transfer of estates to English merchant creditors.

Planters took what steps they could to reduce the risk from the storms, but their efforts provided only minimal protection, and ultimately they had few

options beyond hoping, as Laurens did, that the hurricane season would "steal off in smiles." Nevertheless, despite the risks associated with the storms and the possibility of being "undone," the potential profits from sugar and rice production kept planters rebuilding in the wake of storms. Hurricanes did not transform the plantation economy of the Greater Caribbean, but they did shape the experience of plantership throughout the seventeenth and eighteenth centuries.

The economic consequences of hurricanes in the Greater Caribbean varied over time. Storms in the early years of settlement terrified colonists and destroyed their homes and crops, but the relative lack of physical development limited the overall economic damage. Colonists in St. Christopher, for example, had managed to erect only a few crude dwellings in 1624 before a hurricane struck the settlement. The storm ruined what little tobacco colonists had planted, but they worried more about finding adequate provisions than about assessing property damage. Little had changed when another storm hit the colony two years later. Likewise, a tempest in 1686 highlighted the still undeveloped nature of South Carolina's economy. Houses, fences, and roads all suffered damage, but the greatest economic injury was the loss of cattle, which formed the foundation of the colony's economy in the first decades of settlement. "Most of our cattle are in great danger of running wild," one survivor noted, "there being scarse any probability of finding them out or possibility of driving them home when they are found."[4]

Economic losses from hurricanes increased as colonists made more permanent and more valuable agricultural investments. The development of sugar plantations in the West Indies and rice plantations in the Carolina lowcountry in particular created new economic and material conditions that generated great wealth but also made the colonists' fortunes increasingly vulnerable to hurricanes. Sugar and rice were not the only crops grown in the colonies. Some of the islands, notably Jamaica, produced coffee, ginger, and cotton for export, but sugar dominated the economy and accounted for a disproportionate amount of the planters' wealth. In one Jamaican parish in the mid-eighteenth century, sugar and rum generated 85 percent of the total "export-earned revenue." South Carolina's economy remained more diverse than the islands'—naval stores, deerskins, and later indigo all generated significant income for colonists during the eighteenth century—but rice was the region's signature crop and produced the most revenue. In 1768–72 the value of rice

exports from South Carolina was roughly three times that of indigo, the second most valuable export crop.[5]

Growing and processing both sugar and rice required tremendous amounts of labor and extensive—and expensive—infrastructure. Sugar production mixed elements of agriculture and industry. It required a large workforce to do the backbreaking field labor and skilled workers to perform the dangerous and exacting work of transforming the sugarcane into marketable sugars. Sugar could be planted at any time, but most planters hoped to get the crop in the ground between September and January. Some early planters had slaves dig long trenches to hold cane cuttings, but by the eighteenth century most had adopted a technique known as holing—placing cane cuttings in individual holes five to six inches deep. The canes usually took fourteen to eighteen months to mature, growing to between four and seven feet tall. Planters usually divided and subdivided cane lands into distinct fields in order to harvest canes at the peak of the dry season between January and June. Staggering the harvest was essential because under- or overripe canes produced less juice and thus were less profitable. After cutting the canes, slaves carted the stalks to the mills to begin processing. Sugarcane did not need to be replanted annually: the root remaining in the ground would sprout and produce a second (and sometimes third) crop known as a ratoon. Although not as fruitful as the first crop, the ratoon crop matured more quickly and saved on labor. Every third or fourth year, the cane roots were removed and fresh cuttings were planted.

Once cut, canes had to be rushed to the mills for crushing before their sugar content deteriorated. Animal-powered mills first provided the power to crush the canes in the West Indies, but windmills became more common in the eighteenth century, helping to create a distinct plantation landscape. After crushing the canes and gathering the juice, slaves transferred the liquid to the boiling house. Inside, intense fires requiring huge supplies of fuel burned beneath a series of copper kettles. The juice was boiled first in the largest kettle, which brought impurities to the surface. Slaves skimmed off the impurities, then transferred the remaining juice to a second, a third, and sometimes a fourth or fifth kettle, each smaller and hotter. The last step involved "striking" the crystallizing substance and removing it to a final cooling cistern. Along the way, a skilled boiler would "temper" the liquid with lime to hasten the purifying. Boiling gradually transformed the juice into a thick substance that was then placed in clay pots and transferred to the curing house, where it dried into sugarloaves. As it dried, molasses dripped out, which slaves collected for dis-

tilling into rum. Sugar planters thus profited from the sale of both sugar and its by-product molasses.[6]

Successful sugar production required a large capital investment in land, labor, buildings, and supplies. At the end of the seventeenth century, Sir Dalby Thomas estimated the cost of establishing a one-hundred-acre plantation at £5,625: £1,250 for fifty slaves, £150 for seven white servants and three artisans, and roughly £4,000 for land, buildings, and equipment. Edward Long stated that a three-hundred-acre Jamaica plantation in the 1770s represented £10,017 in capital expenditures: he valued land and crops at £2,970 sterling, one hundred slaves at £3,570, the sugar works and equipment at £2,463, and sixty head of cattle at £1,014. These investments created substantial profits and made sugar planters the wealthiest colonists in all of British America during the seventeenth and eighteenth centuries. Profits were greatest at the start of the sugar revolution in middle of the seventeenth century, but successful plantations in the mid-eighteenth century still generated annual returns of roughly 10 percent, depending on the particular island.[7]

Rice production involved different procedures, although they were equally complex. Rice was introduced to South Carolina in the 1670s, but attempts to grow the crop on a large scale proved unsuccessful for several decades. Planters eventually learned the best means of cultivating rice from African slaves who were more familiar with the crop, and rice soon emerged as the principal staple. By the middle of the eighteenth century the governor of the colony reported that "the only Commodity of Consequence produced in South Carolina is Rice, and they reckon it as much their staple Commodity, as Sugar is to Barbadoes and Jamaica, or Tobacco to Virginia and Maryland."[8]

Colonists initially grew rice inland on dry soils, using only rain to water the crop. Planters eventually discovered that the crop flourished when water covered the fields at certain points, and they transferred their operations to the marshy swamplands along the lowcountry coast. Slaves cleared and drained the fields and enclosed them with a series of ditches and embankments. They built reservoirs to store water from the swamps or nearby rivers, which they used to flood the fields. Reservoirs provided a limited amount of water, however, and allowed for only one or two coverings a season. By the middle of the eighteenth century, some innovative planters began taking advantage of the tidal flow of the numerous rivers and streams that cut across the lowcountry for irrigation. Rising tides on many rivers pushed lighter freshwater upstream on top of the heavy salt water that rose below it. Planters sought to capture this

freshwater to cover their fields, but they also needed to keep out the brackish salt water, which could destroy the rice crop and ruin the fertility of the fields. To do so they built embankments around the fields, five feet high, three feet thick across the top, and twelve to fifteen feet wide at the bottom. Within these embankments a series of smaller banks, ditches, and canals separated the fields. A system of trunks and floodgates controlled the flow of freshwater onto and off the fields. Tidal plantations allowed for more frequent and regular flooding and greatly increased production. By the 1790s, tidal plantations produced 1,200 to 1,500 pounds of rice per acre as opposed to between 600 and 1,000 pounds on inland swamp plantations.[9]

The production cycle of rice started with slaves' preparing the fields for planting and repairing trunks and ditches in the first few months of the year. Planting usually began in late March or early April. After planting the seeds, the major work was keeping the fields clear of grasses and weeds, and slaves spent days in the swampy lowlands, surrounded by mosquitoes and snakes, hoeing the fields and clearing weeds. The advent of tidal production, which allowed more frequent flooding, helped kill some grasses. In mid-September all attention turned to harvesting the crop. First slaves cut the rice stalks and left them to dry on the banks surrounding the fields. Once dried, the stalks were taken to the plantation ground and threshed to separate the grain from the stalk, pounded to remove the husks from the grain, and winnowed to rid the grains of chaff. The final product was clean white rice. Pounding was the most difficult and physically draining step in production. Because the goal was to separate the grain from its covering but not crush the grain itself, pounding required a great deal of skill and strength. It was initially done by hand using large mortars and pestles, but by the middle of the eighteenth century a number of planters had developed pounding machines.[10]

One nineteenth-century observer likened a lowcountry tidal plantation to a "huge hydraulic machine, maintained by constant fighting against the rivers." Rice production required an enormous amount of labor and involved major environmental manipulations. According to one eighteenth-century estimate, simply clearing an acre of land cost roughly 8 shillings, but the necessary work of draining the fields and constructing the infrastructure needed for growing rice added an additional £1 to £4 4s. to the overall cost, making it far more expensive than other mainland agricultural operations at the time. Such work also required large amounts of labor, and contemporaries generally agreed that between thirty and forty laborers were required for successful rice production.

One visitor to the region in the 1770s estimated that it took £2,476 to establish a two-hundred-acre lowcountry plantation. The development of this complicated physical infrastructure increased productivity, which in turn generated great profits: based on probate inventories, nine of the ten richest men in mainland North America on the eve of the Revolution were lowcountry planters. As with sugar, however, the increased complexity of these agricultural operations made them more vulnerable to disruption by hurricanes and other forces.[11]

Hurricanes posed several similar threats to sugar and rice production. First and most obviously, the storms laid waste the fields themselves. Hurricanes struck a few months before the start of the harvest, greatly damaging the mature canes. "Whole fields of sugar canes [were] whirled into the air, and scattered over the face of the country," wrote one observer. "The cane fields appear as if a roller had passed over them," noted another. Although planters attempted to salvage whatever they could, under- or overripe cane had little value, and unless crushed quickly it was almost worthless. As the Jamaican planter William Beckford explained, "The old canes having been lodged, broken off, or uprooted, although they may be immediately cut after the calamity shall have happened, will yield, at best, but little produce."[12]

Hurricane season overlapped with the harvest season for rice, September and October. The storms routinely flooded rice fields, often ruining the year's crop. "Ye violence of the rain and wind" accompanying a 1724 hurricane caused flooding that "damnified some of the Indian corn and rice" in South Carolina. Laurens reported that "the ripe Crops of Rice have suffer'd very much all along the Sea Coast" from a hurricane in 1769. "Rotten rice, ded Hogs, Calves poultry, rats & Insects, are enough to make a well man sick," wrote one Georgia overseer after a hurricane in the early nineteenth century. The Charleston merchant John Guerard noted that what little rice survived the September 1752 hurricanes proved almost worthless, "a great deal pounding away to powder, wch is a natural consequence by its being so long weather beaten & lying in the water wch to be sure softened the grain and causes it to moulder away under the force of the Pestle." Those planters who used tidal rivers to water their fields faced the added risk of having them contaminated with salt water, which could destroy their fertility for years. Planters gradually discovered that it was best to keep their floodgates slightly open during hurricanes to allow water in and out. Although this allowed some salt water into the fields, it was deemed less devastating than if the pressure on a closed gate destroyed the gate itself and flooded the fields with a rush of salt water.[13]

Hurricanes also caused extensive damage to the elaborate infrastructure needed to grow and process the crops. Sugar plantations, with their windmills, boiling houses, curing houses, and other buildings were particularly vulnerable. "Furious Hurricanes," exclaimed Sir Dalby Thomas at the end of the seventeenth century, "not only does the Crops an Injury, but sometimes tumbles down and Levells their Mills, Work-Houses, and strongest Buildings." One traveler to the region wrote that during storms, "Windmills are swept away in a moment; their works, their fixtures, the ponderous copper boilers, and stills of several hundred weight are wrenched from the ground and battered to pieces." Losses from a 1733 hurricane in Montserrat included thirty of the thirty-six mills on the island, "the other Six . . . much shatter'd, having lost their Veins and Round Houses," along with significant damage to "most of the Boiling-Houses, and the Sugar in them, which was considerable." In the lowcountry, the storms often damaged or destroyed the complex series of gates and embankments used to control the flow of water onto rice fields. Henry Laurens estimated that on one of his plantations, one-third of the rice lands "suffer'd by Salt Water breaking over the Banks," damaging the fields during a 1769 storm.[14]

In addition, hurricanes destroyed ships and port facilities, both essential for shipping crops to markets throughout the Atlantic world. During the 1675 hurricane in Barbados, twelve ships in Bridgetown's harbor, "some of them laden with sugar, were driven ashore and broken to pieces." The 1712 hurricane sank numerous vessels in Kingston harbor, which afterward appeared "full of Wrecks . . . and great Quantities of Goods and Dead Bodies float[ed] from Place to Place, as the Wind blew." A 1728 storm destroyed or damaged twenty-three ships in Charleston harbor and ruined over two thousand barrels of rice on ships or in city warehouses. The 1752 hurricanes in South Carolina destroyed the wharves and warehouses along the Cooper River that functioned as the colony's hub of trade and commerce. John Guerard informed one correspondent that the storms tore roofs off city warehouses, which in turn ruined a great deal of rice and other goods stored in them. Another correspondent received news that the hurricane had damaged his shipment of wine before it could be sold and that it would have to be auctioned. Damage and debris on Bridgetown's docks after the 1780 hurricane "greatly obstruct the shipping Business."[15]

Some hurricanes claimed the lives of slaves held on ships before they were unloaded and sold. Some two hundred slaves perished in 1722 when a hurricane sank the slave ship *Kingston* that had recently arrived in Jamaica. Henry

Laurens warned one correspondent in July 1755 to avoid having cargoes arrive in the late summer. "We would not choose them [slaves] sent in the Hurricane Season," he wrote to one, because the risk of loss was simply too great. Moreover, as we shall see in greater detail in chapter 4, major hurricanes often killed dozens, sometimes hundreds, and occasionally thousands of slaves on plantations throughout the Greater Caribbean during the seventeenth and eighteenth centuries.[16]

Planters' letters, officials' correspondence, and published travel narratives all provide vivid descriptions of the destruction wrought by hurricanes in the seventeenth and eighteenth centuries, but they reveal few specifics about their effects on plantation production and planters' profits. Assessing the economic consequences of hurricanes is difficult, especially for the seventeenth century, when systematic record keeping was less developed and hurricanes often destroyed plantation accounts and official documents. The governor of the Leeward Islands, for example, informed London officials in 1676 that he could not furnish good statistics on Nevis's economic and demographic situation because few records remained after several hurricanes and other calamities. Indeed, the destruction of papers and official records opened the door for enterprising colonists to claim ownership of properties without actual deeds, stating that proof of their ownership had been destroyed in various disasters. Colonists on St. Kitts passed a law in 1701 to ensure that the loss of "deeds and grants by accidents of fire or water or wind, which many years past these Islands were often exposed to hurricanes" did not leave legitimate property owners "exposed to every wicked man's molestation" but secured ownership for the legitimate proprietors. Some colonists also took steps to secure their official papers: officials in Nevis, for example, built "a good substantial Sessions House, and strong chests to secure all things in hurricane time," but these measures were not entirely successful, much to the chagrin of colonists, colonial officials—and later historians.[17]

More complete and reliable records exist for the eighteenth century, and aggregate production statistics provide some evidence of the effect of hurricanes on plantation operations. Export figures for the sugar colonies in 1698–1775 indicate significant drops in production in the year after major storms. Exports of muscovado sugar from Jamaica, for example, declined from 257,422 cwt. to 138,424 cwt. in the aftermath of the 1722 hurricane, then rose slightly to 207,841 cwt. in 1724 before regaining prehurricane levels in 1725. The 1733

hurricane affected all of the Leeward Islands, but production appeared most disrupted in Nevis and Antigua. In the former, production dropped by almost 50 percent, from 70,132 cwt. to 37,709 cwt., and exports remained low for several years. Antiguan exports plummeted from 208,977 cwt. in 1733 to 96,172 cwt. in 1734, although planters there rebounded by 1735. Early reports that "one years Crop of Canes will at least be lost" as a result of the 1744 hurricane in Jamaica proved premature, but production did drop by more than one-third in the year following the disaster. Jamaica and Barbados struggled for several years to recover from the hurricanes in early October 1780. Sugar production, already in decline as a result of the American Revolution, dropped even further in 1781, and sugar imports into England from the islands did not return to prehurricane levels until 1783. Rum exports provide additional evidence for the loss of agricultural productivity. Barbados shipped 2,527 hogsheads of rum in 1780, but exports plunged to just over 500 hogsheads in 1781 and remained under 1,000 until 1784, when the colony shipped 3,315 hogsheads to England.[18]

Hurricanes also affected rice production in South Carolina. The 1724 storm contributed to a drop in exports of over 1.5 million pounds of rice (from roughly 8.6 million to 7 million pounds). The loss from two successive hurricanes in the fall of 1752 was particularly severe. The number of barrels of rice shipped from the colony dropped from over 82,000 barrels in 1752 to just over 37,000 barrels in 1753. Planters recovered quickly, however, and production reached record levels in 1754 (93,000 barrels). The storm also caused "vast havock" among the pine trees used in the production of turpentine and naval stores. One planter estimated he lost £10,000 worth of trees.[19]

Not all hurricanes caused such major declines in production. Output in Jamaica and the Leeward Islands fell only slightly after the 1751 tempest. Likewise the 1728 storm in South Carolina had little effect on rice production, and despite the loss of several thousand barrels on ships and in warehouses, overall exports actually rose slightly the following year. Moreover, export statistics highlight the overall volatility of plantation agriculture, as exports often rose or fell dramatically in response to a variety of factors. Nevertheless, most hurricanes had a major effect on production: plantation output fell, often by 50 percent or more for at least one year, while the effect of especially violent and destructive storms sometimes lingered for a second year.[20]

The loss of valuable crops to hurricanes often had important short-term consequences for the supply and price of sugar and rice in the British Atlantic marketplace, depending on the extent of damage to individual colonies and

the number of colonies struck during any given year. "I think there never was a fairer Chance for a good Price for our Sugars all this year," wrote Dr. Walter Tullideph, a Scottish planter in Antigua, after a destructive hurricane in 1751. This was especially true, he continued, "if Jamaica should have suffered much in the storm," further reducing sugar supplies. Tullideph's instinct proved correct, and London prices jumped on news of the hurricane and ships from the colonies arrived less than full. South Carolina planters "talk[ed] in a high Strain" of getting eighty shillings per cwt. of rice after the 1752 hurricane destroyed that year's crop, and prices in Charleston rose to some of their highest levels of the eighteenth century.[21]

The potential disruption from a hurricane and its effects on prices meant that correspondents in England anxiously awaited word from the colonies each fall. The London sugar market fluctuated widely upon news of a hurricane in the Leeward Islands or Jamaica (the largest producers of muscovado sugar), often producing a sudden rise of between two and ten shillings per hundredweight, and timely information could mean significant profits for merchants selling sugar to metropolitan grocers and refiners. The same was true for the market in rice, much of which was reexported. John Guerard heard of one merchant house that received early news of the 1752 South Carolina storm and immediately sent a rider to London ahead of the regular post. The rider beat the post by three hours, and the merchants purchased 1,800 barrels of rice for export to Europe at a low price before news of the storm sent prices skyrocketing. Conversely, another merchant house sold off sugar it had stored, hoping to make some profit before a fleet loaded with sugar from the Leewards arrived in the London market. The ships docked in March 1745 and brought news of a major hurricane in Jamaica. Sugar prices surged, much to the chagrin of Messrs. Lascelles and Maxwell.[22]

Even rumors of a hurricane, and the corresponding threat of a small crop, could influence European markets and prices. News of a hurricane in Carolina spread around London in the fall of 1743, prompting anxious merchants to prepare for shortages and high prices. The rumor soon proved false. The Charleston merchant Robert Pringle wrote to his brother in London that although a storm had struck the colony, it resulted in "very little or no Damage Done by it Either in Town or to the Crop of Rice." Instead of shortages—and corresponding high prices—Pringle informed his brother that merchants should expect "Certainly the Greatest Crop of Rice that has ever yet been produc'd."[23]

High prices for crops, however, did not always offset the losses caused by the storms. In spite of high prices, individual West Indian planters often found themselves unable to salvage enough sugar from a storm-damaged crop to provide much income. The managers of the Codrington College plantations in Barbados reported in 1781 that the hurricane the previous year had resulted in a small sugar crop that was "very insufficient to pay the current expenses of the plantation, tho' the whole of it will be sold here at the enormous price of 40[s.]/cwt." One major reason was that costs for plantation supplies rose along with prices for staples, since the storms destroyed not only sugar but also essential food and building materials. Provisions were "very scarce and deare" on Barbados in the aftermath of the 1675 tempest. Kingston vestrymen reported that the price of flour had risen from 18s. 9d. a barrel to £5 a barrel in the city after the 1722 hurricane. In an effort to keep prices of essential goods down after the 1752 hurricane, the South Carolina Assembly passed a law forbidding the export of corn, peas, and other foods from the colony, and officials sought provisions from northern merchants to help keep supplies plentiful and prices reasonable. Corn remained "Scarce and Deare" throughout the spring of 1753, until supplies from nearby colonies eased the shortfall and the cost. Hurricanes in the West Indies, by contrast, often represented a good market opportunity for South Carolina rice producers, who directed more rice to the islands to meet the demand for food.[24]

Aggregate totals of exports give some indication of the economic effects of hurricanes, but they do not differentiate between losses occasioned by hurricanes and other influences on plantation operations. Exports from St. Christopher fell after the 1707 storm, for example, but the low output also reflected damage done during a French invasion in 1706. How much specific damage resulted from one or the other is unclear.[25]

Attention to individual calamities and individual plantation operations is another means of exploring these issues. Although the effect of hurricanes differed from plantation to plantation and from storm to storm, a case-study approach provides insights on the losses occasioned by the storms and the specific issues planters faced as they set about rebuilding and reestablishing their operations. Good documentation exists for the "Great Hurricane" that struck Barbados in October 1780, which allows for this kind of analysis. As its name indicates, the 1780 storm was particularly intense, but the issues confronting planters were common in the wake of storms throughout the period.

The Great Hurricane struck on Tuesday, October 10, 1780, and visited widespread and horrifying destruction on the island. The *Barbados Mercury* reported that "in most plantations all the buildings, the sugar mills excepted, are laid level with the earth, and that there is not a single estate in the island which has entirely escaped the violence of the tempest." In the aftermath of the storm, officials ordered a survey of individual parishes to determine losses. The findings were staggering: the hurricane killed over two thousand slaves and six thousand head of cattle and caused total property damage of more than £1,300,000 currency. (All figures are in local currency unless otherwise noted.).[26] (See table 3.1.)

Only one parish report, from St. George's, has survived, but it provides a window on the losses planters suffered. Two hundred and seventy-six individuals filed claims for damages totaling £99,864.[27] Planters with large operations sustained the greatest losses. Francis Bell lost three slaves and thirty head of cattle (worth £540), had £110 worth of furniture and clothing destroyed, and reported damages of £3,585 to his buildings and crops. John Prettejohn claimed losses of £7,000, including twelve slaves. Benjamin Gittens lost one slave, several cattle, and almost £3,000 worth of buildings and crops. The enumerator grouped together the largest planters with the greatest losses, and these thirty estates (11 percent of the total 276 claims) reported damages of £76,150, 76 percent of the total losses in the parish. The average loss for these larger planters

*Table 3.1 Account of Losses in Barbados from the 1780 Hurricane, by Parish*

| Parish | Slaves Killed | Cattle Killed | Total Damages[a] |
|---|---|---|---|
| St. George's | 128 | 934 | 102,282 |
| St. James's | 108 | 514 | 100,765 |
| St. Thomas's | 84 | 650 | 104,115 |
| St. Andrew's | 47 | 325 | 66,656 |
| St. Joseph's | 63 | 343 | 61,071 |
| St. Peter's | 48 | 614 | 74,671 |
| St. Lucy's | 33 | 335 | 28,784 |
| St. John's | 49 | 260 | 61,522 |
| St. Philip's | 180 | 463 | 116,011 |
| St. Michael's | 916 | 834 | 412,284 |
| Christ Church | 377 | 1,334 | 192,398 |
| Total | 2,033 | 6,606 | 1,320,564 |

*Source:* Sheila Lambert, ed., *House of Commons Sessional Papers of the Eighteenth Century: Report of the Lords of Trade on the Slave Trade, 1789.* Wilmington, DE, 1975, 69: 296.
*Note:* All amounts in pounds currency.
[a]Shillings and pence not noted.

was £2,538. Among the remaining 246 residents, the average loss was smaller, only £96. Thirty-eight individuals (15 percent) in this group reported the death of slaves, as opposed to sixteen (53 percent) of the first group. Many smaller planters reported the death of one or two slaves, but they may have represented the planter's entire workforce. Others lost cattle, equipment, and houses that likewise may have constituted their entire estates. Without inventories or tax lists, which do not exist for the parish, it is impossible to gauge the extent of losses relative to the overall estates of these individuals, but many colonists may have lost their most valuable property or had it severely damaged, and it is certain that most faced exceptional difficulties in the wake of the storm.[28]

Records from individual plantations in Barbados provide even greater detail on the hurricane's economic consequences. Turners Hall plantation, in St. Andrew's parish on the island's windward coast, was owned by an absentee planter, William FitzHerbert (later Sir William) of Derbyshire. The estate suffered considerable damage from the 1780 disaster. When a new overseer, Richard Gill, arrived in 1781, the effects of the storm remained quite visible. Gill wrote to FitzHerbert, "The melancholy appearance of every Person & thing, struck me with a degree of Terror not easily to be described." Almost every building on the estate suffered damage. The hurricane demolished the curing house, rum house, liquor house, and trash house beyond repair and reduced other structures to their foundations. The boiling house was severely damaged, and its roof was blown away. The mill sustained the most serious structural damage. "The Mill indeed presented the most Extraordinary Instance to view that ever was known. Every piece & stick belonging to her Round House, Tail Tree, & Shaft included, had been overset and after the ropes with which her upper Timbers had been lash'd for security were cut, they lay on the ground in a most shatter'd condition." In addition, the plantation "sick house" and mule pen were "entirely unroof'd" while the roof of the dwelling house suffered significant damage.[29]

The storm destroyed several hundred pots of clayed sugar stored in the curing house, valued at £300, but of greater concern was the state of canes in the fields. Gill reported that in many of the fields, first- or second-crop canes appeared "much Injured by the storm" or in "very poor" and "very indifferent" condition. Potatoes and corn were also damaged, as was the plantain walk. Indeed, Gill reported that the latter was "in so shocking a condition that I expect little or no food from it till tis newly planted with Dung." No slaves died during the storm itself, but several perished in the following months, perhaps from food shortages and disease brought on by the storm's lingering effects. In

sum, Gill estimated that the total damage to the plantation exceeded £4,000, a figure that included some minor repair costs (table 3.2).[30]

Replanting and rebuilding began immediately. Slaves planted corn and potatoes for food and made some repairs to the dwelling house by mid-January.

*Table 3.2 An Estimate of the Losses Sustained by the Storm at Turners Hall on October 10, 1780*

| Item | Value |
|---|---|
| Old curing house | 200.00 |
| Rum house | 100.00 |
| Liquor house | 150.00 |
| Trash house | 100.00 |
| Dwelling house (repairs) | 50.00 |
| Mason's work | 60.00 |
| House carpenter and cooper | 75.00 |
| Nails | 55.00 |
| Timber (cut from woods) | 200.00 |
| Timber and arm bought for mill | 22.10 |
| Mill carpenter | 80.00 |
| Plumber | 10.00 |
| Braisare | 20.00 |
| Blacksmith's account | 40.00 |
| Cattle (number = 7) | 54.00 |
| Sheep (number = 13) | 10.05 |
| Mules (number = 2) | 50.00 |
| Corn | 68.15 |
| Yams | 30.00 |
| Plantains | 100.00 |
| Pease | 80.00 |
| Canes | 1,500.00 |
| Labor (workmen) | 115.00 |
| Food, rum, sugar for workmen | 50.00 |
| Sugar lost | 300.00 |
| Sugar pots destroyed (number = 400) | 67.10 |
| Drips (number = 300) | 28.7.6 |
| Tiles | 250.00 |
| New curing house repairs | 250.00 |
| Rum and molasses lost | 50.00 |
| Wood injured | 200.00 |
| Total | 4,306.7.6[a] |

*Source:* FitzHerbert Papers, ME 20755.
*Note:* Estimate given to the Vestry of St. Andrew's Parish. All amounts in pounds currency.
[a]Actual amount adds up to £4364.

Gill transformed the parlor into a temporary rum house and the kitchen into a storeroom. In addition, he had the boiling house put "in a condition to break the Crop." Gill ordered the erection of a temporary kiln to produce tile to cover the boiling house, still house and other buildings. Nevertheless, numerous obstacles remained. "We began to make sugar the first week of this month," Gill wrote to FitzHerbert on April 23, "but the want of a Sail to the Mill, which could not be procured, and the difficulty getting the canes up the hill for want of stock, has prevented our making more than 85 pots [of sugar] at this time." He stated to FitzHerbert that he did not anticipate producing much more that year. Moreover, he warned that nor "can much more be expected from the crop of 1782, as the 20th of January had past before a Cane was put in the Earth." To complicate matters, the old first-crop canes in the field were "so shattered, with such a plenty of Grass growing thro' them, as must have exhausted all the Dung, and thereby totally injured the Second Crop, so that much cannot be expected from them." And despite his best efforts to produce tile, the still house remained uncovered, and the lack of covering "must consequently occasion a Failure of Rum."[31]

Gill's assessment of the situation proved accurate. Sugar and rum production on the plantation dropped for two years after the hurricane, although the 1782 loss was small (table 3.3). While production fell, expenses rose in 1780 and 1781 for timber and skilled workers to repair buildings and extra food for slaves, among other things. The cost of these essentials rose significantly after the storm. Gill reported to FitzHerbert that boards and shingles "will come to a good market" and that "Fish of all kinds is very dear," and he suggested that FitzHerbert purchase ten or twelve barrels of herring. He also urged FitzHerbert to secure a supply of beans for the plantation to compensate for the loss of corn and

*Table 3.3 Turners Hall Plantation Account Abstracts, 1778–1783*

| Year | Provisions | Real Expenses[a] | Income | Profit/Loss |
|---|---|---|---|---|
| 1778 | 263.16.2 | 1,337.5.8 | 3,713.19.10 | 2,376.14.2 |
| 1779 | 255.13.2 | 1,329.18.3 | 3,284.3.5 | 1,954.5.2 |
| 1780 | 353.0.4 | 1,817.17.11[b] | 2,691.9.5 | 873.11.6 |
| 1781 | 317.2.7 | 1,787.10.11 | 657.4.10 | −1,130.6.1 |
| 1782 | 224.6.5 | 961.19.9 | 956.18.8 | −5.1 |
| 1783 | 320.5.11 | 1,364.6.5 | 4,393.13.8 | 3,029.7.3 |

*Source:* Abstract of Accounts, FitzHerbert Papers, ME 20688–20693.
*Note:* All amounts in pounds currency.
[a]Includes provisions.
[b]Includes purchase of seven slaves (£224) and loss of £300 worth of sugar.

other ground provisions. In the meantime, he spent £150 to buy food for the slaves. Gill estimated that the cost of repairing most of the buildings would be over £500, but this account does not appear to include some of the supplies he requested from FitzHerbert, and it is likely that the total was significantly higher. Overall, the impact of the hurricane and the costs associated with rebuilding resulted in two straight years of losses for the plantation.[32]

Other planters suffered similar losses. William Senhouse was a relative newcomer to Barbados in 1780, having arrived on the island only a few years earlier with a commission as surveyor-general for Barbados and the Leeward Islands. In 1774 he purchased the Grove plantation in St. Philip's parish and its 109 slaves for £18,000. Senhouse found the plantation in miserable condition. Expenses for repairs "amounted to a heavy sum," and in the first few years he struggled to make a profit. In his memoirs, Senhouse cataloged the problems of drought, the blast, sugar ants, and other "misfortunes" that plagued "this illfated Island" (and his ill-fated plantation). Indeed, Senhouse experienced a significant production drop in 1780 that appears unrelated to the October hurricane, and while he did not assign a cause for this decline, sugar ants are a good possibility. The "climax" of Senhouse's economic troubles, however, came from the 1780 hurricane, which "gave the coup de gras to the very existence almost of property."[33]

As the hurricane tore through the island on October 10, Senhouse and his family fled the falling debris of their residence and sought shelter in the buttery, where they stayed all night. "It seemed as if Nature, thus violently convulsed, was on the point of expiring," Senhouse later wrote. "It appeared to be the crisis of our fate!"

Emerging the next morning to survey the damage, Senhouse wrote, "I almost sickened at the sight." The storm leveled the dwelling house, boiling house, curing house, cornhouse, and slaves' houses, along with most other structures on the plantation, "the mill, water mill and distil house excepted." Two horses, nineteen sheep, and twenty-nine cows were killed, and the corn and sugarcane "were laid level almost with the ground." In addition, three slaves died during the storm, and three more would die in the coming weeks. Senhouse estimated the total damage at £2,448: £100 for the slaves, £418 for animals, £500 for corn and canes, £770 for the plantation buildings, and £660 for the dwelling house and furnishings.[34]

After the shock of the storm passed, Senhouse and his slaves began recovery efforts. Senhouse first ordered his slaves to plant corn to provide some provisions, but the weather conspired against him: continual rains washed away the

seeds so they had to replant four times. Next Senhouse turned to rebuilding the sugar complex. By the middle of December, slaves had rebuilt the cornhouse with a high loft so it could double as a curing house. Next came repairs to the boiling house, essential for processing whatever canes had survived the storm. The building was finished by early February, and Senhouse reported, "We hanselled it by making 66 Pots of sugar, the whole of our crop!" His joy at having some sugar to process faded as he tallied the final calculations for the year: Senhouse noted only £130 in income in 1781, while expenses for rebuilding rose to over £1,000. Sugar production levels increased in 1782, but his profits remained low, and the plantation lost money for three more years. Only in 1785 did it again return a profit, which it continued to do for the next fifteen years (table 3.4). Not all of these continuing expenses and losses were linked to the hurricane, but the storm played a key role in Senhouse's declining fortunes in the first few years of the 1780s.[35]

As planters learned about the seasonality of the storms and the signs associated with an approaching hurricane, they took what steps they could to mitigate the risks to their plantations. Canes in the fields remained vulnerable, but sugar planters did their best to ensure that the pervious year's crop was milled, processed, and shipped before the start of hurricane season. Some planters

*Table 3.4 William Senhouse's Grove Plantation Accounts, 1774–1786*

| Year | Expenses | Production | Lost | Cleared |
|---|---|---|---|---|
| 1774 | 503.10.2 | 25.19.3 | −477.10.11 | |
| 1775 | 1,197.6.7 | 149.7.3 | −1,001.19.10[a] | |
| 1776 | 1,460.11.11 | 2,517.0.7 | | 1,056.8.8 |
| 1777 | 769.1.5 | 1,002.6.5 | | 233.5 |
| 1778 | 881.8.6 | 708.3.10 | −173.4.7 | |
| 1779 | 828.18 | 1,293.9.3 | | 464.11.3 |
| 1780 | 990.3.8 | 386.3.1 | −604.0.7 | |
| 1781 | 1,023.0.2 | 130.6.3 | −892.13.11 | |
| 1782 | 868.2.8 | 795.13.10 | −72.8.10 | |
| 1783 | 521.5 | 219.7.4 | −301.17.7 | |
| 1784 | 973.3.4 | 676.6.11 | −296.16.5 | |
| 1785 | 1298.6.4 | 2363.3.8 | | 1,064.17.3 |
| 1786 | 678.9.9 | 999.2.1 | | 320.12.4 |

*Source:* "Autobiographical Manuscript of William Senhouse," *JBMHS* 3 (February 1936): 90.
*Note:* All amounts in pounds currency.
[a]Numbers do not compute.

took down parts of their mills to protect them from damage. By keeping the mills up and grinding later in the season, the Antiguan planter Samuel Martin warned in his mid-eighteenth-century *Essay on Plantership,* "we hazard not only the destruction of our windmills by hurricanes, but make bad sugar." Others encouraged prestorm preventive measures to lessen damage to buildings. Henry Laurens warned his estate manager John Loveday, "About the middle of August begin to be much upon your Guard about tempestuous Weather." Loveday had not experienced a hurricane, and Laurens "caution[ed]" him to "have Bars of strong Wood ready to fasten in all your Windows, keep every Article liable to Damage six Inches off your Floors. and nothing so low as the common Surface of the Earth in the Cellars. these you must expect to be brim full, your House and Outhouses overflowed your fences blown down. Prepare against the worst while the Weather is fair. Save all those Cypress Boards near the Counting House and in the Yard for repairing Fences." Significantly, Laurens added that "in case of Disaster" Loveday should send immediately for two slaves who were on another of Laurens's estates for help.[36]

These actions represented important adjustments to the threat from hurricanes, but they ultimately provided only minimal protection, and even the best-prepared planters still suffered significant damage. The widespread destruction accompanying hurricanes required major capital expenditures for rebuilding. Even in good years, plantations had a high rate of capital depreciation as equipment broke down and slaves, the most valuable investment on a plantation, died. Annual expenses on a sugar plantation could run as high as £1,900 out of total revenue of £3,600. Damage from hurricanes multiplied those expenses while diminishing the income needed to pay for them. William Beckford wrote that reconstructing the plantation buildings and infrastructure after a major storm "will necessarily be attended (even if the planter should have his own tradesmen) . . . with immediate trouble and expence." No crop insurance existed in the seventeenth and eighteenth centuries, nor could planters insure their buildings against hurricanes.[37]

Instead, faced with increased expenses and little prospect of income from their mangled crops, some planters in the Greater Caribbean turned to outside creditors for financial assistance. As early as the 1650s, Richard Ligon emphasized the importance of credit for sugar planters: "If he [the planter] be not well friended, he can never entertain a hope to rise again" in the aftermath of various calamities. British merchants served as the principal "friends" and source of credit for large planters in the Greater Caribbean, although credit

mechanisms differed somewhat in South Carolina and the islands, reflecting differences in the sugar and rice trades.[38]

In the early decades of the sugar revolution, English (and Dutch) merchants who operated on their own accounts (meaning they owned the goods being shipped) advanced planters the supplies they needed and received payment when the crops were harvested, but by the end of the seventeenth century large planters sought to take greater control of the process. In what became known as the commission system, planters shipped their crops on their own account to an agent in England, who then sold them. The agent (or merchant) placed the proceeds into an account, which the agent used to buy supplies for the plantation. In addition, the agent paid customs duties, purchased insurance, and warehoused any sugars the planter wanted to keep off the market for a time. The agent received a commission for all these services (usually 2.5 percent). He also acted as the planter's banker, advancing supplies or loans or accepting bills of exchange (which functioned something like modern checks) on the planter's account. If bills were drawn before a crop or other remittance had arrived, the agent could accept them, placing the amount in a debit column and charging the planter interest, usually 5 percent. Interest charges applied until a new crop arrived, which brought the account into balance or at least retired part of the old debt. Agents could, however, also reject the bills, which left the planter without the ability to purchase what he needed or desired. Metropolitan creditors also extended longer-term credit secured by mortgages on the planters' estates.[39]

The commission system came to dominate West Indian trade in the eighteenth century, and the agents became principal sources of credit when planters needed loans or supplies. But English merchants were not the only source of credit: planters or local merchants in the colonies also served as creditors. Local credit markets varied from colony to colony (in the Caribbean, Jamaica probably had the largest internal loan market), but everywhere local lenders provided important credit to their neighbors. Local interest rates, however, were usually higher than those in the metropolis. Planters also sometimes received short-term credit from North American provision merchants (usually through the merchant's local factors), but because they often paid such debts in bills of exchange drawn on English merchants, if not through shipments of rum or molasses, metropolitan merchants were the ultimate source of credit.[40]

South Carolina planters, by contrast, did not ship rice to England on their own accounts. Instead, beginning in the 1720s or so, planters sold their crops

in Charleston to local export merchants who operated on commission or in partnership with British merchants. Planters bought imported goods and supplies (including slaves) from these local merchants. British merchants (primarily in London) provided supplies and credit to local merchants, who in turn extended credit to planters. Thus "there was a flow of credit from England to South Carolina" during the eighteenth century, but it went "through the Charleston business community to the planters." A local mortgage market provided planters with another source of credit.[41]

Hurricanes at times forced some planters to turn to creditors to help finance their plantation operations as they set about salvaging what they could, replanting crops and rebuilding mills and other structures. Most of the time this process appears to have worked smoothly, and planters received whatever credit or supplies they needed. But hurricanes could spell ruin for smaller colonists who lacked the collateral to secure large loans or for planters already deeply in debt. Accounts of the 1675 hurricane on Barbados suggested that "numerous families who had formerly lived in opulence were obliged to retire in order to escape their creditors." A 1752 hurricane in South Carolina forced Jacob Motte, the public treasurer of the colony, to declare bankruptcy. The storm destroyed his wharf along the Cooper River and washed away the rice and naval stores that were in warehouses awaiting shipment. One contemporary estimated his loss at £10,000. The disaster left Motte unable to pay back a number of loans he had made to himself from the public treasury to finance his own business dealings, and he was forced to transfer his entire estate—including plantations, slaves, and household furniture—to a board of trustees appointed by the Council and Assembly. After the 1780 hurricane, Richard Gill reported to William FitzHerbert that many estates on Barbados "have been, & are yet to be broke up" because of the storm.[42]

The devastating 1772 hurricane caused particular economic havoc in the British Atlantic world. News of the hurricane arrived in London in the wake of the collapse of the Ayr bank, which set off a chain reaction of bank failures and tightened the credit market in the metropolis. Henry Laurens wrote that the "most violent & destructive Hurricane . . . will produce new Bankruptcies in England. Very large Sums have been lent upon Mort[g]ages of Estates in those Islands & a vast Amount is due to England in the common course of commerce much of which will now be for ever lost." Some British planters on the newly acquired islands of Grenada, Tobago, Dominica, and St. Vincent fled with their slaves to nearby French islands rather than lose them through debt collection.

Even well-established planters with good credit had trouble getting new advances because of the run on credit. The Nevis planter John Pinney had his bills of exchange rejected by his London factor when he sought funds because he was already in debt and the hurricane had likely "started a run against all West India credit." In the wake of the 1780 hurricane, the governor of Barbados feared plantation owners would be unable to secure more credit to rebuild their plantations, "so deeply are they indebted to the English merchants."[43]

The reverberations from bankruptcies and defaults after hurricanes helped reshape the economic landscape of the colonies at various points during the seventeenth and eighteenth centuries, particularly in the sugar islands. During the mid-seventeenth century, many smaller planters in Barbados and the Leeward Islands grew small amounts of sugar on their own or as tenants for larger planters. Gradually, however, credit arrangements that put them in debt to their neighbors forced many off their lands. As one contemporary noted, wealthier planters, "by giving Credit to their profuse and sometimes necessitous neighbours on severe Termes, insensibly in few yeares wormed out the greatest pt of ye small proprietors."[44]

At times hurricanes furthered this progression. After the 1675 storm the governor of Barbados reported to London that many terrified residents "resolved never to build again but to leave the island." Although many changed their minds and started to rebuild, "a great many can never be able to do it." Without access to credit, smaller farmers were forced to sell their lands to wealthier and more secure planters, who thereby expanded their landholdings and production capabilities. Such transfers are difficult to document, but Richard Dunn used a 1674 map listing individual plantations and the 1679–80 census from Barbados to highlight this transfer of land. Though lacking actual deeds of sale or transfer, Dunn argued that in the aftermath of the hurricane, many of the small planters whose names appear on the map but not in the census "sold their property . . . to the big and middling planters." The governor of Jamaica (at the time, a colony seemingly immune to hurricanes) was told in December 1675 to prepare for a migration of "good numbers of families" on account of the "late ravages at Barbadoes by hurricanes."[45]

A similar consolidation likely occurred in the wake of other storms. When a major hurricane again struck Barbados in 1731, officials again worried that the storm would depopulate the island. "So general has the calamity been," Assembly leaders claimed, "that there is scarce a person throughout the whole Island but who has received a considerable loss by this dreadful storm." Indeed,

"so great is our present desolation that many of the poorer inhabitants, unable to rebuild their ruined houses, will be driven to quit the Island." Such fears must to be treated with a degree of caution because island officials, seeking new legislation from Parliament to regulate trade with the mainland colonies (redress that would be achieved with the passage of the Molasses Act in 1733) and increased imperial military protection from French threats, had reason to emphasize the weakness of the island. Nevertheless the storm caused significant damage, and small farmers and planters faced difficult circumstances in its wake.[46]

Local officials periodically debated halting debt collection after hurricanes to protect small and indebted farmers. After the 1675 hurricane, Barbados officials worried that "hasty" creditors seeking funds would drive debtors off the island. The issue arose again after the 1780 hurricane. The Assembly rejected the idea of closing the courts and stopping debt collection because it transferred the suffering wrought by the storm from one group to another. Supporters of the motion argued that it would protect "the honest and industrious" against the "rapacious claims of unfeeling creditors," but opponents countered that closing the courts would punish creditors, including, one Assembly member noted, "young ladies with small fortunes from £500 to £1000" who would be "left destitute by a Law that is to deprive them of their little interest money to keep their bodies from the Cold."[47]

Overall, hurricanes aided the process by which, during the seventeenth and early eighteenth centuries, land in many of the sugar colonies came to be dominated by wealthier planters and larger plantations. The economics of sugar production would have resulted in consolidation regardless of other factors. Indeed, large-scale out-migration and land consolidation were already occurring in Barbados and the Leeward Islands during the 1660s. But hurricanes accelerated consolidation at various times by bringing financial ruin to small planters on many of the islands. As one report from the 1670s noted, many colonists fled the Leeward Islands for South Carolina with hopes of escaping the "terrible hurricanes [which] destroy their crops and houses every year."[48]

By the second half of the eighteenth century, the major issue became the transfer of estates to owners outside the colonies rather than consolidation within them. As planters placed greater burdens on their estates (usually by establishing legacies that guaranteed set payments to heirs in England), debts mounted to British merchants, who increasingly asked for mortgages and titles to land as security on loans. By 1753, for example, just twenty-three Barbadian

planters owed the English merchant Henry Lascelles £85,154 sterling, of which Lascelles held £12,714 as mortgages. When hurricanes left planters unable to pay expenses, they were forced to transfer ownership to British merchants. By the early 1790s, Bryan Edwards noted that "accident[s]" helped transfer colonial properties to residents "in Great Britain itself, who, amidst the continual fluctuation of human affairs, and the changes incident to property, find themselves in possession of estates in the West Indies which they have never seen."[49]

The effect of hurricanes on such transfers is evident in Jamaica in the 1780s. According to a report compiled by the island's Assembly, 42 percent of the total estates enumerated on the island in 1772 had been sold for debt, put into the hands of receivers, or "thrown up" (taken out of operation) by 1791. Again, hurricanes were not the only factor at work in these bankruptcies, but "debts contracted during a long series of public calamities," including the repeated destruction wrought by five storms in seven years, exacerbated disruptions caused by the American Revolution and plunged many planters on the island into financial ruin. William Beckford of Jamaica provides one example. Beckford owned several sugar estates and animal pens in western Jamaica. In 1777, possibly in response to wartime conditions, Beckford took out a mortgage "to secure the payment of two principal sums of £20,967 1s. 6d Sterling," plus an additional £5,000, offering three plantations as collateral. Then the 1780 hurricane hit, eliminating any hopes Beckford had of reducing his debts, and the plantation remained in the possession of London merchants. He later wrote that "the planter's loss after a hurricane, particularly after one of so destructive a nature as that which happened in 1780, is certainly, if all circumstances be taken into consideration, not only ruinous to the needy man, but more than the independent can support, and such as none but the truly affluent can repair." How often hurricanes played a role in the transfer of property in the region, either from small farmer to large planter, from planter to planter, or from planter to merchant cannot be known with any certainty, but it is clear that they were important in such transfers at various times and places. As one visitor to Jamaica in the wake of a 1784 hurricane noted simply, "Property is here exceedingly precarious."[50]

In addition to the transfer of land, the threat to life and limb from hurricanes drove some planters back to England. Walter Pollard, the son of a prominent planter, returned to his native Barbados in 1779 after finishing his education in England. He found Barbados "exhausted" from a number of factors: war, drought, fire, but most of all from the hurricane of 1780. "Lo! The fatal

hurricane!" he wrote. "It lays our properties in the dust, the hard earnings of the past, the hopes of the rising generation." It was all too much for young Pollard, who quickly fled "with his hopes and industry" back to England, a "more favoured climate." A visitor to Jamaica in the latter part of the eighteenth century found that hurricanes, combined with the heat, humidity, and earthquakes, left many colonists "emaciated" and drove them back to England to recover. Absenteeism among West Indian planters is the subject of some debate, but absentees were more common in the Greater Caribbean than elsewhere in British America, and hurricanes were one reason.[51]

Hurricanes influenced another important part of the business of sugar and rice production—shipping. Everyone involved in the production and sale of sugar and rice crops had an interest in getting them safely to various markets, and that meant taking account of the threat to vessels transporting the crops. Merchants and ship captains tried to avoid arriving or departing during the hurricane season. Shipping in the region never ground to a complete halt, but it did slow during the dangerous late summer months, as captains attempted to fill their cargo holds and leave for Europe and North America before the height of storm season. "A large number of English vessels sailed the 26th of last month from the islands in the West Indies for Europe, as is usual at that time, to avoid the hurricane seasons," the *Pennsylvania Gazette* reported in August 1767. One seventeenth-century slave trader believed that ships should reach "the American islands by the end of April (the sugar making season). Then the vessel can be carefully loaded before hurricanes start up, and can be back in Europe before the Michaelmas storms." While awaiting the arrival of the *Philadelphia Packet,* a nervous Henry Laurens almost sold off his correspondent's entire rice crop in mid-October 1768, "being prompted . . . particularly from the danger of having the whole swept away in one night by a Hurricaine." Laurens actually sold eighty-two barrels before the ship arrived in port.[52]

Some captains avoided certain ports during the hurricane season because they were particularly vulnerable. Bridgetown, for example, was completely exposed to the sea, and ships caught there during even minor tropical storms were often tossed ashore and destroyed. Conversely, many believed that the harbor at St. Johns, Antigua, with a ring of hills surrounding it, was relatively secure, and ships often anchored there during the hurricane months. Other captains moved south for the entire hurricane season, believing that the waters off the coast of South America were safer. As a bonus, such a location gave

them an opportunity to raid Spanish ships. Ships stranded in South Carolina either moved north or anchored upriver from Charleston. When the *Ann Galley* arrived in Charleston too early in the season, for example, the merchant Robert Pringle wrote to the owner that he could do nothing but recommend that the ship go "up one of our Fresh Rivers for Two Months to be free from the Worms or Hurricanes."[53]

Planters could not insure their crops while they were in the field, but they could insure them on ships, and many did so in an effort to secure that year's output and profit. Marine insurance was well established by the end of the seventeenth century. London merchants purchased insurance for ships and their cargoes sailing to the Greater Caribbean, usually on specific orders from the planters, although some planters left it to the discretion of merchants who had better access to news about affairs in Europe that might influence shipping. The most secure firms were London Assurance and Royal Exchange Insurance, and prominent West India Merchant houses such as Lascelles and Maxwell took out policies only with them. Others found underwriters for their voyages at Lloyds's coffeehouse.[54]

Insurance rates remained relatively stable during the eighteenth century. Rates for trade to Jamaica during peacetime averaged 6 percent, while the rate to other parts of the West Indies averaged about 4 percent. The cost of insurance doubled, however, for ships that sailed during the hurricane season. As a result, anxious planters and merchants tried to load their ships with sugar and depart before the beginning of August and the most serious threat from storms. The owners of the *Kingston Packet,* for example, hoped the ship's captain in 1775 could purchase sugars as quickly as possible and be sailing to Bristol by August to avoid the doubling of insurance premiums. Hurricanes also influenced local insurance rates for ships sailing within the region. After the 1780 hurricane in Jamaica, insurance on shipments of provisions between Kingston and Savanna-la-Mar ran 5 percent. One official wrote to his correspondent, "You will probably think the insurance high, but the underwriters are more afraid of the 3rd of October than of all our enemies," referring to the hurricane that had struck the previous year.[55]

Insurance offered planters security that their crops would bring payment even if they did not make it to market, but it also added to the cost of shipping their products, and some chose to avoid the extra expense, particularly during times of peace. The percentage of ships that were insured is unknown, but it is clear that some were not insured, or not insured for the full value of their car-

goes. The South Carolina merchant Robert Pringle, for example, could only "hope you are fully Insur'd" when he learned that one of his brother's ships may have been lost in a hurricane on its return from Jamaica in 1743. Some planters simply shipped their sugars on several vessels to reduce their risk from ocean storms or capture by enemies. Nevertheless, marine insurance offered some protection to planters who otherwise had little means of countering the threat from hurricanes.[56]

In the aftermath of the devastating 1707 hurricane in the Leeward Islands, Governor Daniel Parke wrote to London officials informing them of the damage in the various colonies. Amid his general description, Parke wrote about his own losses. "For my own part I have lost allmost all I have; ever since I came I have been building a House at St. Kitts, which is now blown down, and the ffload has caryed away all the timber into the sea." Parke noted further that he had "hyred" a plantation on St. Christopher, but that too was destroyed. He estimated that it would cost a year's salary to rebuild, and "I do assure your Lopps [Lordships]. I am now much a poorer man than when I came." The next year, after again outlining the various trials he had undergone, Parke wrote that "I should be glad to stay now I am here and seasoned, in hopes to gett something hereafter, and I hope we shall not have Hurricanes every year."[57]

Throughout the seventeenth and eighteenth centuries, hurricanes repeatedly devastated the sugar and rice plantations of the Greater Caribbean. The storms ruined crops, destroyed buildings and infrastructure, sank ships, and took the lives of African slaves. The combined effects of such destruction resulted in serious short-term physical and economic hardships for most planters, including Parke, and complete financial ruin for some. Although hurricanes drove some planters from the region, most rebuilt, often with the help of outside creditors. What kept planters rebuilding despite the risk of future devastation was, as Edmund Burke suggested, the possibility for "being great." The demand for plantation staples, and the protected market for sugar and rice in Great Britain meant that the potential profits from these crops were great enough to ensure that colonists "weathered" the risks involved in production. Despite repeated destruction from hurricanes (and other calamities), these crops brought tremendous rewards, and successful sugar and rice planters became among the wealthiest of all colonists in the British Empire. One visitor to Jamaica noted, "If this island were not troubled with great thunders and lightnings, hurricanes and earthquakes . . . the fertility and beauty of

this country would make it as desirable a situation for pleasure, as it is for the profits, which, in spite of these disadvantages, draw hither such a number of people." After detailing the devastation wrought by a hurricane, another traveler wrote, "It is easy to conceive how uncomfortable it is to live in those parts, where mens lives and estates are in continual danger; but want and covetousness put men upon exposing themselves to the utmost extremities." Planters had no choice about where they could grow sugar and rice; the climate that allowed for production of these crops also gave rise to natural forces capable of destroying them and everything associated with their cultivation. The possibility of riches came with great risks.[58]

For all their fury, hurricanes did not alter the fundamental structure of the plantation economy in the British Greater Caribbean during the seventeenth and eighteenth centuries. Unlike the collapse of the coffee industry and consolidation of sugar after three successive hurricanes in nineteenth-century Cuba, the repeated destruction of sugar and rice plantations did not force British planters to turn away from these crops or from their commitment to developing plantation societies in the region. Planters periodically debated shifting crops in order to lessen the losses from hurricanes. As early as the 1680s, Christopher Jeaffreson wrote that indigo might offer better returns with "less trouble, and with less danger of the hurricanes." The 1780 hurricanes contributed to calls for increased local production of provisions and diversification of crops on some islands. Some planters experimented with new food sources such as the breadfruit tree, brought into the region in the 1780s by William Bligh, or attempted to increase production of secondary crops like cotton. Overall, however, planters in the West Indies remained committed to sugar throughout the seventeenth and eighteenth centuries and beyond. Hurricanes did play some role in the shift away from sugar on some islands in the region, but only at the end of the nineteenth century. Likewise, hurricanes contributed to the decline of rice production in the coastal lowcountry of South Carolina, but not until the 1890s, when a series of storms struck the final blows to an industry already shaken by the physical devastation and societal changes caused by the Civil War.[59]

Nevertheless, if hurricanes did not transform the economic structure of the Greater Caribbean during the seventeenth and eighteenth centuries, they did shape the experience of plantership. Colonists everywhere in the overwhelmingly agricultural colonies of British America worried about the weather and its effects on their crops, but no others faced such regular threats to the larger

economic infrastructure as those in the Greater Caribbean did from hurricanes. Henry Laurens's concerns were not simply idle speculations or planter hyperbole. They reflected the centrality of the storms to the mental and physical world of planters in the Greater Caribbean, who throughout the seventeenth and eighteenth centuries found themselves engaged in a Sisyphean struggle against nature in their quest for wealth.[60]

CHAPTER FOUR

# Chaotic and Scarce Times

The weather on the morning of August 27, 1681, began clear, but it soon turned "overcast and proved a rayney blustering day," Christopher Jeaffreson, a St. Kitts planter, wrote in a letter to his sister. The blustery day gave way to an even more tempestuous evening, and the winds steadily increased and began to blow "vehemently hard." As the storm intensified, Jeaffreson's slaves sought shelter in his plantation house, and for several hours they huddled together as the winds raged around them. Near midnight, however, the roof of the dwelling began to give way and, fearing disaster, Jeaffreson ordered the slaves out. The last to leave, Jeaffreson paused to lock the door and put the key in his pocket before rushing to join his slaves in a small outbuilding that remained standing. The small structure "rocked like a cradle," he wrote, but it "sheltered us from the violence of the storm." It was one of the few buildings to survive. The next day Jeaffreson found his dwelling "miserably torne, and flat with the ground" and his plantation devastated. The situation was "very uncomfortable," he wrote, with no "victuals to eat, dry cloathes to put on, or a house to shelter in, or fire to dry themselves by." Jeaffreson ordered his thirty-two slaves to immediately begin planting "Indian provisions," but on October 4 a second

hurricane blew across the island that "destroyed our provisions, and hath occasioned a sickly and scarce time amongst us."[1]

Christopher Jeaffreson's account of the 1681 storms illustrates some of the key issues hurricanes raised for the slave societies of the Greater Caribbean. For planters like Jeaffreson, the fear of hurricanes extended beyond their effect on profits. Throughout the seventeenth and eighteenth centuries, hurricanes routinely plunged the colonies into what one official called a "State of Chaos and Confusion," and many planters worried that slaves would take advantage of these conditions to challenge planters' authority. Colonists also worried that the widespread destruction caused by the storms, and damage to fortifications in particular, left them vulnerable to attack by French or Spanish forces in nearby colonies. To guard against both, officials made securing arms and presenting a visible show of force a priority in the wake of storms. Although there is no evidence that slaves ever mounted a major challenge to white authority after a hurricane—or any to suggest that French or Spanish officials planned an invasion to coincide with the hurricane season—the possibility of such events influenced how white colonists perceived the storms and how they responded to the disorder that accompanied them. While the hurricane made a mockery of Jeaffreson's locking his door, the attempt itself reveals a concern about asserting some authority in an increasingly chaotic situation.[2]

Hurricanes created a different set of issues for the thirty-two slaves on Jeaffreson's estate and for others throughout the region. The chaotic conditions that so concerned planters—the destruction of plantations, fields, and fortifications—created additional work for slaves. Planters wanted their plantations and towns rebuilt as quickly as possible, and they pushed slaves hard. Slaves performed such work under particularly difficult conditions. Hurricanes destroyed provisions and caused food shortages for weeks and sometimes months, especially in the West Indies. Slaves felt such shortages most severely. Jefferson's comment that a "sickly and scarce time" followed the 1681 hurricanes only hints at the privation faced by slaves who even in the best of times lived on inadequate diets. Scarcities existed to some degree after all hurricanes during the seventeenth and eighteenth centuries, but the worst crisis emerged during the American Revolution, when the combination of several major hurricanes and the elimination of trade with North American suppliers brought widespread suffering and death to thousands of slaves in Jamaica and Barbados.

Scholars characterize the colonies of the Greater Caribbean as "slave societies" rather than "societies with slaves." In the latter, slaves were one form of labor among many, but in the former they constituted the dominant form of labor and slavery shaped all social, economic, and political relationships. The development of large-scale slavery and the rise of slave societies in the Greater Caribbean coincided with the shift to sugar and rice production. This process occurred at different times in various colonies, but by 1720s slaves formed the majority of the population in all the colonies in the region.[3]

Barbados was the first colony to make the transition to sugar and slavery during the 1640s. By 1660 the population of slaves equaled the English population on the island, and from that point forward slaves were a majority. By the middle of the eighteenth century, slaves outnumbered whites on Barbados roughly four to one. Similar developments followed in the Leeward Islands, where slaves formed an even greater percentage of the population. By the middle of the eighteenth century, slaves outnumbered white colonists eleven to one in Nevis and twelve to one in St. Christopher. The slave population in Antigua grew from 2,172 in 1678 to 12,943 in 1708 to almost 38,000 in 1774, at which point the black-white ratio was greater than fourteen to one.[4]

Emigrants from Barbados brought slaves and the Barbadian model of a slave society with them to Jamaica and to South Carolina in the second half of the seventeenth century. Within seven years of conquering Jamaica from the Spanish in 1655, 3,653 whites and 552 slaves lived on the island. The slave population increased substantially in the following decades as more colonists turned to sugar production, and by 1673 slaves outnumbered whites 9,504 to 7,768. By 1774 Jamaica was the leading sugar producer in the British Empire, with hundreds of estates worked by over 190,000 slaves. Although the white population of the island expanded as well during the eighteenth century, from 7,000 in 1703 to roughly 13,000 in 1774, slaves outnumbered white colonists by fifteen to one.[5]

Slaves likewise arrived in South Carolina with the first colonists, but their numbers remained small for several decades. Only after the successful introduction of rice in the early eighteenth century did the colony became a slave society. Between 1703 and 1720 the slave population grew almost fourfold to 11,828, while the white population grew from 3,800 to 6,525. As rice and the plantation system continued to expand, so too did slave importations. By 1740, slaves outnumbered whites in the colony by two to one, making South Carolina the only mainland colony with a black majority, and in the eyes of one Swiss traveler, "more like a negro country than like a country settled by white

people." That was particularly true in some coastal rice districts, where slaves outnumbered whites nine to one.[6]

The demography of the Greater Caribbean generated great concern among colonists. The eighteenth-century Jamaican planter and historian Bryan Edwards stated that "in countries where slavery is established, the leading principle on which government is supported, is fear." Planters responded to the growing slave populations with elaborate slave codes designed to regulate all aspects of slave life. The codes gave individual masters almost complete authority over their slaves and legislated draconian punishments for any infractions. To enforce such laws, and to guard against rebellion, colonists relied on local militias and, more important, the British military. The militia was most prominent in South Carolina, where its primary responsibility in the eighteenth century involved policing the colony's slaves. With the exception of Barbados, the small white populations of the sugar islands meant that militias offered only minimal protection, so island colonists relied more heavily on the British military. "The men of property in this island pay an ample contribution, in order that it may be protected, not so much from French or Spaniards," wrote the Jamaican planter Edward Long, "as against the machinations of the many thousand slaves, which, in proportion as the settlements advance further and further into the heart of the country, grow the more formidable from their multitude."[7]

Hurricanes posed significant threats to planters because the storms often destroyed the foundations of their power—guns, ammunition, and military supplies. The 1722 hurricane in Jamaica rendered the island's fortifications "mostly unserviceable" and left the colony in a "weak condition." Island officials quickly requested "gunns carriage firearms and ammunition" from England. Small arms were "broken and destroyed" during the 1675 hurricane in Barbados, and damage to the island's magazine resulted in rotted pikes and "spoiled" muskets. In addition to the loss of armaments, the widespread damage to houses, plantations, roads, and towns created chaotic conditions that left the colonies exposed to what one official called the "insults of our Enemies, Neighbors, and intestine rebels." Of the three, rebellious slaves created the most immediate apprehension among planters. The governor of Barbados called on whites to guard against a potential slave rebellion in the wake of a 1694 tempest. A few days after the 1780 hurricane, Thomas Thistlewood wrote that many residents of western Jamaica "seem much afraid of [the] Negroes rising, they being very impudent." Another resident wrote on October 9, "The

negroes seem inclined to revolt, and say they are now free; how our unhappy condition will terminate, God knows, but a gloomy prospect is before us." The Westmoreland vestry echoed these fears several months later, stating in a letter to British military leaders that slaves in the region had grown "exceeding turbulent & daring, well knowing a Number of Inhabitants had perished in the Storm, and almost all our arms & ammunition destroyed."[8]

Similar fears emerged in the wake of other major disasters. After the devastating 1692 earthquake that destroyed the town of Port Royal and caused damage to plantations across Jamaica, terrified whites worried that slaves would rise up against their masters. Local officials informed London that "our small arms are mostly damaged by the fall of houses, which makes us very apprehensive about the slaves." Another observer wrote, "Our first Fears were concerning our Slaves, those Irreconcilable and yet Intestine Enemies of ours, who are no otherwise our Subjects than as the Whip Makes them; who seeing our strongest Houses demolisht, our Arms broken, and hearing of the destruction of our greatest Dependency, the Town of Port Royal, might in hopes of Liberty be stirred up to rise in Rebellion against us, which is a War always the more terrible, by how much there is no Quarter given in it, but they shall kill and slay all the Whites, Men, Women, and Children, that they can Conquer." Few earthquakes resulted in the level of devastation that marked Port Royal, but hurricanes routinely created the social chaos and mass confusion that whites feared would end as the anonymous writer above suggested.[9]

Some slaves took advantage of the chaotic conditions to loot whatever they could from the ruins of stores and dwellings, especially in urban areas. After the 1780 hurricane, the streets of Bridgetown appeared as "a continuous scene of Rapine & Confusion," wrote British military commander John Vaughan. "The Negroes (who are exceedingly numerous on this Island) instead of attempting to save the effects of the unhappy sufferers were plundering in every part of the Town." The Jamaican planter William Beckford recalled that in the immediate aftermath of the 1780 hurricane, slaves "poured down in troops to the scene of devastation . . . and having made free with the rum that was floating in the inundations, began to grow insolent and unruly; and, by their threats and conduct, occasioned an alarm which it was found necessary, by exertion and caution, at once to suppress."[10]

Looting was not confined to slaves. Officials in South Carolina made no racial distinctions among the "wicked and evil-disposed persons" plundering in the wake of the 1752 hurricane. Beckford reported that some whites also en-

gaged in "promiscuous plunder" in the town of Savanna-la-Mar. Sailors often generated particular concern in port cities, and officials in Jamaica noted specific efforts to control their actions after the 1722 hurricane. Nevertheless, while looting concerned all property holders, regardless of who was involved, looting by slaves was particularly worrisome. Many whites feared that plundering emboldened slaves and represented the beginning of larger challenges to planters' authority and the broader social order.[11]

To counter such threats, officials presented the strongest show of force possible. Local officials called out town watches, militia units, and British troops to control looting and to thwart any rebellion. The governor of Barbados, fearful that "the negroes should take advantage of the disorder to rise," ordered "all the houses to put out lights and kept the constables on watch in the town" following a 1694 hurricane. Governor Nicholas Lawes of Jamaica "took all necessary precaution in ordering the proper officers in their respective districts to make a view of all the small arms and ammunition in the country and to see the Act of Militia relating thereto duly put in execution" after the 1722 storm. He debated proclaiming martial law but rejected the plan because he was afraid it would hinder recovery efforts. Residents of Westmoreland parish wrote to British military leaders in Jamaica urging that a warship be dispatched to Savanna-la-Mar as a show of force and "to afford us protection from any evil designs of our Slaves." The governor also sent arms and ammunition to Westmoreland and Hanover parishes. In Barbados, British troops patrolled the streets of Bridgetown devastated by the hurricane of 1780, keeping the island "quiet" and "protecting [colonists'] property."[12]

Despite whites' fears and notwithstanding incidents of looting, slaves in the British colonies never took advantage of the chaotic conditions to mount a sustained rebellion. The presence of troops likely had some effect in dissuading potential rebels. Governor James Cunningham reported in January that Barbados was "at present in a perfect state of Tranquility," a remarkable feat in his eyes, considering that there were "70,000 Negroes and 800 Prisoners of war loose in the Country during our late disaster" and that the island remained in ruins. Cunningham sought some credit for himself, but he also noted, "It is fortunate General Vaughan resided in this island. His authority, joined with the activity of the Officers and Troops under his command contributed greatly to preserve order in the town, preventing Rapine & Plunder from the Prisoners & Negroes." By contrast, the lack of such troops in Westmoreland parish contributed to residents' fears about the actions of slaves there.[13]

Some contemporaries suggested that at least in Barbados an increasingly creolized slave population posed less of a threat to social order. William Dickson, a former official in Barbados, noted that slaves born on the island became "interested, as far as any slaves can be interested, in the prosperity of that their native land," and he cited conditions after the 1780 hurricane as proof. Although the storm had damaged arms and ammunition, Dickson claimed that "the negroes remained peaceably with their owners; and shewed no signs of a spirit of mutiny."[14]

Whatever the merits of such arguments—and certainly General Vaughan's account of conditions in Bridgetown immediately after the 1780 storm differs from Dickson's later recollections—a number of other factors made overt resistance unlikely. Slave rebellions were usually carefully planned affairs, not spur-of-the-moment actions, and slaves had no better information about the onset of hurricanes than anyone else in the colonies. They knew about the timing of hurricane season, but that provided too broad and uncertain a context for planning organized resistance. Moreover, in the wake of hurricanes, finding food, shelter, and other necessities likely outweighed any thoughts of resistance. The widespread privation after a 1733 hurricane in Antigua contributed to conditions that sparked a planned revolt in 1736, but given the three-year gap between the two events, the chaos immediately following the storm played no direct role in the revolt. Hurricanes may have created chaotic conditions that terrified planters, but slaves could not act on such conditions in any organized fashion. As with other accounts of slave conspiracies and scares, concerns about hurricanes and social disorder reveal far more about the mentality of planters than the actions of slaves.[15]

Enemies in neighboring colonies posed another threat to planters' security in the aftermath of hurricanes. The Greater Caribbean experienced almost continual warfare during the seventeenth and eighteenth centuries as the various European powers fought to protect their own valuable colonies in the region and to prey on those belonging to other nations. The English battled the French, Dutch, and Spanish, or some combination of the three, in 1665–67, 1672–74, 1688–97, 1702–13, and again in 1739–48, 1756–63, and 1778–83. The proximity of the islands allowed for easy raids across narrow sea-lanes. Possession of St. Christopher, jointly occupied by the English and French during the seventeenth and early eighteenth centuries, shifted seven times during the Anglo-French wars between 1666 and 1713. Montserrat, Antigua, and Nevis

were all attacked at least once. The English seized Jamaica from the Spanish in 1655 and then had to fight off the French in 1694. Only Barbados escaped invasion, although that did little to assuage colonists' fears about outside threats. South Carolina experienced less warfare than the islands, but the colony was vulnerable to attack from Spanish Florida in the south and from various Indian nations in the interior. The latter danger materialized in 1715 when the Yamasee War broke out and Indians destroyed numerous colonial settlements.[16]

Hurricanes routinely damaged or destroyed the fortifications that colonists had erected during the seventeenth and eighteenth centuries to guard against outside attacks. The medieval walls surrounding Charleston, South Carolina, suffered significant damage during the 1713 hurricane, as did several bastions at strategic corners of the city. The fortifications in Jamaica likewise "suffered very much" from the 1722 hurricane. The east end of Fort Charles in Port Royal sank several feet, and most of the cannons were washed into the sea. James Glen, the governor of South Carolina in 1752, reported to London officials that "it is more proper to say to your Lordships that our Fortifications are destroyed than damaged" by the September 15 hurricane. The brick walls were "torn to pieces, as if Mines had been sprung." Glen lamented that the storm rendered useless in a matter of hours fortifications that had taken years to build. At Craven's and Grenville's bastions, cannons were dismounted and their carriages swept away. Colonists recounted with a mixture of awe and horror the power of winds and water that moved heavy cannons as if they were toys.[17]

Colonial officials feared that such destruction left them vulnerable to what Governor Lawes called the "insults of our envious neighbors" as well as "intestine rebels." Contemporaries often referred to hurricanes as "enemies," and many colonists worried about a potential alliance between their human and natural foes. The 1675 hurricane in Barbados generated concern because colonists were "under some fears of war with France" and the storm destroyed small arms and munitions, leaving the colony in an "unprovided condition." Fearing an attack from the French in 1712, Jamaican officials informed London authorities that while "preparing to resist a human force we were shattered almost to pieces by one irresistible," referring to the devastating hurricane that struck in August of that year. The governor declared martial law "to secure us agt. ye enemy we expected (who in ye condition we were in was still more to be feared)." According to one account, the colonists "were in Arms to be ready

for Defense, if the Enemy should take advantage of the distress they were in to invade the Island." Only with news that the French fleet had left the region did the governor restore common law. Governor Edward Trelawney warned the Duke of Newcastle that while the 1744 hurricane had destroyed fortifications and warships in Jamaica, nearby Spanish Hispaniola suffered little damage, leaving the island vulnerable to attack. One report in the *Pennsylvania Gazette* stated that "the Spaniards would probably now take this favourable Juncture to make an Attempt upon that Island, while the Naval Force there was so much weaken'd, and before a Reinforcement could arrive from England."[18]

Despite such concerns, hurricanes apparently never served as the opening blow for an invasion of the English colonies, nor did the English use the storms to attack their enemies. Indeed, military commanders routinely stopped operations during the hurricane season because the storms posed too great a risk to their fleets, a lesson learned from tragic experience. One such disaster occurred in 1666 when Francis Lord Willoughby led a small armada from Barbados to aid Nevis against a French attack. A hurricane caught the ships en route and hundreds of troops perished, including Willoughby himself. English colonists in South Carolina, by contrast, benefited from a major tempest in 1686. Spanish officials risked an invasion of South Carolina in the fall of that year, but a hurricane drove two Spanish warships ashore on North Edisto Island. The loss forced the invasion party back to St. Augustine, possibly saving the infant colony.[19]

Most colonial officials recognized that a single storm often damaged multiple colonies, English and non-English alike, which further diminished the likelihood of an attack. News that French islands had suffered during the 1780 hurricane season and that several ships loaded with provisions were destroyed, for example, reassured British officials worried about a possible attack because of the destruction in Barbados and Jamaica. "Humanity must lament" French losses, Lord George Germain wrote to the governor of Jamaica, but the loss of provisions "contribute much to our security, as they put it out of the power of the Enemy to take Advantage of our distress." (Germain went on to suggest that with Martinique ravaged and Admiral Samuel Hood arriving shortly, it might be a good time to attack!) Nevertheless, even as colonists learned that the hurricane season minimized the threat of attack, the possibility could not be ignored. Damage to guns and fortifications weakened colonial defenses, and the history of warfare in the region provided ample evidence of the dangers posed by foreign foes.[20]

Hurricanes created different issues for African slaves in the colonies of the Greater Caribbean. Damage to towns and plantations necessitated massive rebuilding, which meant more work for slaves. As quickly as possible, slaves had to clear away debris, salvage what they could from ravaged fields, reconstruct dwellings for planters as well as for their own families, and rebuild the economic infrastructure of the plantations—the mills, boiling houses, trenches, and embankments necessary for the production of sugar and rice. Anxious planters pushed their slaves to work harder to limit the economic losses that resulted from the storms. Christopher Jeaffreson "used all diligence to gett up a couple of roomes, and one of my sugar-workes" on his St. Christopher plantation after the first 1681 hurricane in an effort to salvage something from his crop. On William Senhouse's Barbados plantation, slaves faced a multitude of tasks after the 1780 hurricane. They were "busily employed" for several days burying dead animals, salvaging what provisions they could, and planting a new crop of corn. Slaves also erected a temporary shelter for Senhouse and his family and rebuilt their own houses. Then they turned to the larger project of reconstructing the plantation. By mid-December they had finished the masonry work on a new cornhouse and began building a new boiling house, which they completed in early February. At that point they began to make more substantial repairs to the main dwelling house on the estate. While working to rebuild the plantation, slaves also began preparing and planting new fields of sugarcane and processing what little cane had survived the October storm.[21]

The increased plantation output of many colonies in the year following a hurricane is indirect evidence of the speed with which slaves rebuilt plantations and resumed agricultural operations. After a more than 50 percent drop in exports following the 1752 hurricanes, for example, slaves in South Carolina quickly rebuilt the infrastructure of rice plantations in the lowcountry and produced a crop that exceeded prehurricane levels by over 10,000 barrels. Similar recoveries that followed hurricanes in the sugar islands during the eighteenth century reflected the immense amount of labor slaves expended in rebuilding while also doing their regular plantation work.[22]

Slaves not only worked harder, they also worked under worse conditions than normal, making reconstruction efforts all the more impressive. Hurricanes routinely destroyed provisions and supplies during the seventeenth and eighteenth centuries, and most slaves faced weeks and sometimes months of inadequate rations and malnutrition as they undertook additional tasks.

Slaves in the eighteenth century generally subsisted on corn or rice (usually one pint a day), salted fish, beef, or pork (one pound of salted fish a week was a common ration), mixed with yams, cassava, potatoes, and fruits such as mangoes, coconuts, and most important in the West Indian islands, plantains. Such provisions came from two sources. In all the colonies locally grown crops, including corn, yams, cassava, peas, and plantains, provided most of the calories in slaves' diets. Slaves grew these crops either on plantation lands as part of their regular work routine or on their own provision grounds set up on less desirable lands and worked on their own time. Most slaves also had small vegetable gardens that added variety to these staples. To supplement locally produced crops, planters imported corn, flour, pork, beef, and especially salted fish from Britain and from the northern mainland colonies. Imported foods accounted for roughly 10 to 20 percent of Jamaican slaves' overall caloric intake, and they were important in providing some protein.[23]

Slave diets were often inadequate in the best of times—one historian notes that "at the middle of the eighteenth century the symptoms of chronic malnourishment showed through almost every detail of estate life"—but conditions often worsened markedly after hurricanes. The storms destroyed provision crops as readily as they laid waste to sugar and rice fields, creating widespread shortages. The 1675 hurricane in Barbados left "corn and ground provisions that should have kept their families six months, laid flat or rooted up." The twin 1681 hurricanes in the Leeward Islands destroyed "all manner of Indian provisions." On Christopher Jeaffreson's plantation, the first storm ruined his provision crops, while the second "rooted up my Cassava, and washed the graine and new-planted puttatoes." A 1686 hurricane in South Carolina mangled most of the corn crop, which because of "continued wet weather lies rotting on the ground." What corn survived became fodder for roaming hogs and cattle, and as a result residents had "too great reason to fear the near approach of famine to complete all our miseries."[24]

Similar concerns followed storms in the eighteenth century. Colonists who survived the 1722 hurricane in Jamaica were "reduced to great Extremity for want of Water, Provisions, and other necessarys." Such shortages and the lack of adequate shelter made the island "very sickly" and claimed numerous lives. Likewise, in the aftermath of the 1744 hurricane officials in Jamaica informed the king that "the present general destruction of our Provisions gives us great reason to fear the utmost distress." The 1752 hurricanes in South Carolina ruined provision fields on plantations throughout the lowcountry, and many

colonists "suffered greatly" from the loss of "cattle, sheep, and hogs, and all kinds of provision." One resident wrote, "We fear a great Scarcity of Provisions," and the price of corn and other foods rose sharply in the following months. Another stated that the crops had suffered so much that "there will not be Rice enough to serve the Inhabitants; and that a supply of Indian Corn will be wanted from the other Colonies."[25]

Such shortages fell especially hard on the slave population. All colonists experienced some short-term dietary hardships because of the storms—one account from the Leeward Islands after the 1707 hurricane stated that "many good Familyes have not had bread, other than potatoes and cassadoe [cassava] to eat for many days"—but the situation was much worse in the slave quarters, where shortages commonly existed even before major calamities. Leeward Island planters struggled to feed their slaves after the 1707 storm because "all provisions [were] scarce." Governor Glen informed the South Carolina Assembly several months after the 1752 hurricanes that he anticipated the colony would be "wholly destitute of provisions for the Months of July and August" and that there were "betwixt forty and fifty thousand Negroes to be fed," who alone would require "near Eighty thousand Bushels" of corn. After the 1772 hurricane in the Leeward Islands, a British military officer reported to London, "We are in sad distress for want of Negro Provisions." The dearth of food on neighboring St. Croix gave rise to fears that hunger would drive the slaves to desperate measures. "No planter has provisions for his negroes," one correspondent noted, "so that we are under a perpetual fear of an insurrection amongst them."[26]

Plantains, a major source of food for slaves in the island colonies, were especially hard hit by the storms. The delicate trees and their fruit suffered significant damage in even minor storms; major hurricanes often uprooted them completely. On the Bybrook plantation in Jamaica, a 1690 storm destroyed "all our planton walk," and as a result, the overseer reported, "we was like to starve the negroes." A minor tempest in Barbados in 1705 left "Plantain trees and the corn in many parts destroy'd." The situation on Barbados was particularly bad after the devastating 1780 hurricane. On Turners Hall plantation, Richard Gill reported to absentee owner William FitzHerbert that "your Plantain Walk is. . . in so shocking a condition that I expect little or no food from it" for months. Slaves often salvaged what they could from damaged trees, but the fruit rotted quickly. The eighteenth-century planter and historian Bryan Edwards suggested that dependence on vulnerable plantains exacerbated provision

crises that followed major hurricanes. Slaves, Edwards wrote, "trust more to plaintain-groves, corn and other vegetables, that are liable to be destroyed by storms, than to what are called *ground provisions;* such as yams, eddoes, potatoes, cassada, and other esculent roots; all of which are out of the reach of hurricanes."[27]

Colonists took what steps they could to secure supplies. Local officials often prohibited the export of corn and other provisions to keep food in the colony. Planters also made planting extra food crops a priority. In addition, colonists sought supplementary supplies to help ease shortages. Merchants in South Carolina organized special corn imports from northern colonies in the spring of 1753. The governor of the Leeward Islands wrote to his counterparts in Virginia, Pennsylvania, and Barbados after the 1772 hurricane seeking corn, fish, and other provisions to help "avert the Threatening Prospect of Famine." Assembly leaders in Antigua even proposed sending out small vessels to meet any incoming ships from North America and direct them to Antigua, although the Council rejected the scheme.[28]

Such appeals usually brought results. North American and English merchants responded to what they viewed as good business opportunities and worked to get ships filled with supplies quickly and sent out to hurricane-ravaged colonies. Some ships already en route arrived serendipitously, much to the relief of distressed colonists. Whether by luck or planning, such shipments along with surviving local supplies appeared to avert the horror of widespread famine that worried many officials. Talk of famine or the threat of famine, common in dispatches in the days immediately following the storms, often disappeared from official and planter correspondence over time, suggesting that this worst-case scenario did not materialize.[29]

Nevertheless, efforts to produce or purchase more food sometimes hit obstacles, prolonging shortages for slaves. Bad weather often frustrated efforts to plant provisions. Jeaffreson planted "Indian provisions" after the first 1681 hurricane, but a second storm washed away the crops. William Senhouse emphasized "preparing and planting the ground with corn for [slaves'] future subsistence" after the 1780 hurricane, but "considerable rains in Novbr. and Decbr." forced him to replant the corn four times. Even if the weather had cooperated, it took several months for these crops to mature. Moreover, some crops required a minimal amount of rainfall, meaning that if they were not planted successfully in the rainy season, planters had to wait until the following May or June to try again.[30]

Similarly, although supplies from Britain and North America helped ease the shortages, it took weeks for outside provisions to arrive, and any number of factors—warfare, accidents at sea, bad weather in the northern colonies—could disrupt trade, increasing hardships for slaves. The loss of a New England provision ship bound for St. Kitts during the 1681 hurricane worsened the "sickly and scarce time" on Jeaffreson's estate. Colonists in Barbados found themselves cut off from outside supplies after the 1675 hurricane. The outbreak of King Philip's War in that same year interrupted trade with New England, and reports indicate that Barbadians "suffer'd also by Want; for the Supplies of Provisions that us'd to be sent from New England were in a great measure stopp'd; that Colony labouring under two severe Judgments, Pestilence and War." During King George's War in the 1740s, the Antiguan planter Walter Tullideph complained that "our North American trade is intirely cutt off by ye great numbers of Privateers & ye King's ships being very inactive, which hath raised all kinds of Lumber & provisions very high." High prices likely reduced the provisions planters purchased, to the further detriment of their slave laborers. One Jamaican planter stated that the "scarcity of provisions" that followed the 1780 and 1781 hurricanes required him to purchase more food for his slaves but that he lacked "sufficient cash to supply such consumption."[31]

As a result, although famine may have been averted, hurricanes caused widespread suffering and malnutrition in slave communities throughout the seventeenth and eighteenth centuries. Slaves often subsisted on a reduced and increasingly monotonous diet of one or two foods as they waited for outside supplies to arrive or local provisions to mature. Six months after the 1751 hurricane in Antigua, Tullideph informed one absentee owner that his plantation "reaped few or no Yams oweing to the Hurricane, but your negroes have been fed these 12 weeks past out of a potatoe peice [*sic*]" and later some corn. Governor Daniel Parke of the Leeward Islands had difficulty finding adequate provisions for his slaves after the 1707 tempest, and at one point he accepted some flour "damnified wth. Salt water" from another planter who told him that "perhaps in this scarce time my negroes might make shift with it."[32]

Slaves routinely suffered provision shortages in the wake of major hurricanes, but they faced especially dire conditions in the 1780s when the combination of several devastating hurricanes and the political crisis of the American Revolution left Jamaica and Barbados with little food and few options for relief. The war severed relations between the rebellious mainland and the loyal West

Indian colonies, eliminating the islands' closest and best source of provisions. The consequences of that separation proved disastrous when two hurricanes struck Jamaica and Barbados less than a week apart in early October 1780. Thousands of slaves died during the storms, most crushed beneath falling buildings or drowned in storm surges, but others perished in the following weeks and months from inadequate food and disease, and all faced shortages and difficult conditions for a long time.

The issue of provisions had emerged in the West Indies even before the hurricanes struck, as the islands became caught up in the intensifying political crisis between Britain and the North American colonies during the 1770s. In part to pressure West Indian colonists to support their cause, the Continental Congress enacted a nonexportation agreement in 1774–75 known as the Association, halting trade with England, Ireland, and the British Caribbean. After the outbreak of hostilities in 1775, Parliament passed its own Prohibitory Act suspending trade between the British Empire, including the loyal West Indies, and the rebellious colonies. Planters and officials in the islands responded to these restrictions with howls of protest, arguing that the trade embargo threatened to cause a serious shortage of food in the region, if not an outright famine. The Barbados Assembly claimed in 1776 that the cost of goods had skyrocketed and that planters could not afford to buy provisions for themselves or, more important, for their slaves. Governor William Burt of St. Kitts reported to London in March 1778 that the Leeward Islands suffered "great losses . . . from a want of Provisions. . . . The Island of Antigua has lost above a Thousand Negroes, Montserrat near twelve hundred & some whites; Nevis three or four hundred & this Island as many from the Want of Provisions." A few months later Burt requested that English officials send ships filled with food to the region. "Unless these ships are sent," he pleaded, "the Ground & Colonial Provisions will not half Supply us; add to this should there be a Hurricane God only knows what may be the Event."[33]

Colonists in Jamaica and Barbados soon found out. Two hurricanes in October 1780 devastated the colonies. At least two thousand slaves perished in Barbados during the October 10 storm, and perhaps an equal number of whites, although as Governor James Cunningham noted, "fortunately few People of Consequence are among the Number." Many slaves died during the storm, but others died in the following days and weeks from injuries, inadequate food, bad water, disease, or some combination of all factors. One account from early January 1781 stated that four thousand people died in the

storm, and "1,000 since of their wounds." On William Senhouse's Grove plantation three slaves died during the storm, but three more died in the following weeks "in consequence" of the storm. Senhouse also lost his youngest son two weeks after the storm: "His death was apparently occasioned by a very severe cold which he caught on the night of the Hurricane."[34]

Senhouse's six slaves were included in the total of 2,033 slave deaths that island officials reported to London authorities, but some observers believed that number was inaccurate. William Dickson, who had served as secretary to Barbados's governor in the 1770s, noted that tax returns showed five thousand fewer slaves in Barbados in 1781 than in 1780, and he argued that "most of them [were] killed by the hurricane." The decline in the slave population during that year was remarkable. The slave population of Barbados remained relatively steady from the late 1770s through the mid-1780s, rising or falling by at most 1,600 persons, not including 1780. Thus, even taking into account slave imports and normal slave mortality, many more slaves perished in 1780 than the 2,033 noted in parish returns, and many of these deaths were likely caused by the hurricane and concomitant conditions.[35]

Numerous other accounts suggest that food remained scarce on the island for weeks and months after the storm and that hunger and disease likely contributed to increased mortality. The British military commander Major General John Vaughan wrote that conditions after the storm gave "too much reason to fear that a famine must inevitably ensue unless some effectual means are used to prevent it." A letter from a planter in early November warned of famine and stated that "1000 negroes have perished . . . since the hurricane for want [of food]." Outside supplies from England, along with newly planted ground provisions, eased the crisis somewhat by the beginning of 1781, but shortages remained. Richard Gill informed absentee owner William FitzHerbert in April 1781 that he had already spent £150 on food and that in addition to the two hundred bushels of beans FitzHerbert had sent out from London, "many more will be required." He also noted that fish, a major source of protein in the slaves' diet, was "very dear" and he requested ten or twelve barrels of herring. One traveler who arrived in the island in July 1781 found Bridgetown still in "dismal ruins" and noted that "every article of produce is very scarce, particularly fruit, all the Trees in the Island having been blown up by the Roots." William Senhouse wrote in the summer of 1781 that corn was so "scarce that it could not be purchased but at a most extravagant price." He quit trying to buy food for some of his slaves and gave the "best and most provident of our

Negroes money in lieu of corn that they might purchase food for themselves." Food thus remained in short supply on Barbados throughout much of 1781, and some number of slaves likely perished because of shortages and other posthurricane conditions.[36]

The hurricane that struck western Jamaica one week earlier on October 3 resulted in similar death and despair. Jamaican officials did not file an official report of losses, but various accounts indicate that hundreds of slaves, and perhaps as many as a thousand, perished during the storm. The *Kingston Gazette* reported that two hundred slaves died on the Blue Castle plantation when a boiling house in which they sought shelter collapsed. Four hundred people "white and black" perished in Lucea, and a like number at Savanna-la-Mar. Although blacks and whites were grouped together in many figures, several reports noted that more slaves than whites died. One report from Westmoreland stated that "several white people and some hundreds of negroes" died in the storm. According to a report in the *Annual Register,* "a great number of the white inhabitants, and of necessity, a much greater of the negroes, perished during the course of the hurricane." Thomas Thistlewood reported that the best account of the deaths at Savanna-la-Mar indicated that seventy whites and at least five hundred slaves died in the storm.[37]

Food shortages were less pronounced in Jamaica than in Barbados because the storm struck only the western parishes of the island, but the governor wrote that residents of those parishes were in a truly "wretched situation," with no shelter, clothes, and worst of all, "Famine staring them full in the face." Colonial officials and Kingston merchants coordinated relief efforts and rushed food to the region in the weeks after the storm, and the timely arrival of several ships from England eased the crisis somewhat. Nevertheless, provisions remained scarce in the hurricane-ravaged parishes of Hanover and Westmoreland, and slaves struggled to obtain adequate food. Thomas Thistlewood sent his slaves into nearby marshes in the days following the storm to pick up whatever "flower, rum, beef, pork, butter, cloth" could be saved. He also allowed them to eat several sheep killed during the storm. Thistlewood received some flour, peas, and salt fish as relief from local officials in late November, but the food supply quickly became more limited. In early April 1781 he wrote that there were "few provisions today at market" and that "Toyer [coco root] and Quacoo [cassava] have been the chief support of the Negroes in this parish since the last 4 months."[38]

In addition to a lack of provisions, Thistlewood's slaves faced a number of other difficulties. The hurricane flooded his property, leaving slaves without shelter for days. Clean drinking water was also a problem. "Can get no water," Thistlewood wrote five days after the 1780 storm, "but what stinks intolerably, & tastes very nauseous being full of rotten leaves, dead fish, crabs, galliwasps etc." More than a week later, he noted that water in a nearby marsh "stinks horribly." Dysentery, common on West Indian plantations even in good times, flourished in these conditions.[39]

Thistlewood reported that several slaves were "very ill," in the weeks following the hurricane. He did not specifically link their illness to the storm, but it seems probable that they were connected. Thistlewood himself became ill in November, and at the end of the year he reported that he was "still unwell & far from right. The hurricane has made every body look ten years older than they did before, and the healthiest show a great dejection in their countenances." Although many slaves were sick, it appears that only one died of disease—a boy named Toney became ill in late November and died on December 10. Thistlewood also noted several other deaths among slaves and whites in the neighborhood, and at least some of them seemed linked to the hurricane, including two daughters of a neighbor. Another planter in Westmoreland stated that he had lost a "very considerable quantity of provisions" during the storm and that because of the food shortage "with sickness together, he . . . lost eight valuable slaves." One account written several years later stated that "negroes on the different properties throughout the island were every day perishing in numbers, partly from diseases (chiefly dysenteries) brought on by unwholesome food, and partly from absolute starvation!" How many other slaves and colonists died in the parish in the weeks after the storm is unclear, but slaves clearly suffered great material and physical hardships, and some likely lost their lives as a result of the lingering effects of the storm.[40]

The 1780 storm marked the beginning of a disastrous decade in Jamaica. Just as the colony was recovering from the 1780 storm, another hurricane hit on August 1, 1781, and food again became scarce for months. Governor John Dalling reported to London that the storm ruined "the Plantain trees and Corn by which the Negroes are subsisted [and] . . . will, I fear, occasion a great scarcity of provisions and press hard upon the distressed planters, to obtain food for their negroes." Thistlewood wrote that "Plantain trees & Corn [were] all down" on his pen. The 1781 storm was less destructive than that of the

previous year, but it nevertheless damaged houses and destroyed "corn & plantains" on other estates in Westmoreland.[41]

The 1781 storm also struck parishes farther east. The Golden Grove plantation in St. Thomas in the East parish had "not a plantain tree hardly standing nor any ground provisions of any sort," Simon Taylor, the estate's attorney, informed the absentee owner, Chaloner Arcedeckne in January 1782. When word of the storm arrived in London in the fall of 1781, Arcedeckne had rushed provisions to Jamaica, but Taylor later informed him that the plantation's overseer had commandeered many of the provisions "for his own use under the name of Borrowing," while many of the slaves were "starving." A Kingston merchant wrote that although some provisions had arrived from St. Thomas and other neutral islands, flour had "advanced to an extravagant price" by the end of 1781, reflecting widespread shortages. Another planter testified to the Assembly that a "great want of provisions" existed in the western parishes after the storm, and that slaves experienced tremendous "distress" as a result.[42]

Jamaican plantations faced food shortages again when another hurricane struck in July 1784. Governor Alured Clarke reported that the storm's "baneful influence . . . extended in a great degree over the whole face of the Country." The hurricane caused significant damage to fortifications, military barracks, and sugar plantations, but most "immediately alarming" was the shortage of slave provisions. Clarke warned that famine and "its certain forerunner, Rebellion of the slaves must inevitably ensue unless the most speedy and ample relief is obtained." A letter from Golden Grove stated, "There is not a Single [plantain] Tree, I believe, in the whole Neighborhood. There will certainly be a Famine in this Quarter before six weeks are at an end." The slave provision grounds on the Winchester estate, also in St. Thomas in the East parish, "exhibited the strongest picture of distress" in the aftermath of the storm.[43]

Two more hurricanes struck Jamaica in the next two years. The August 1785 hurricane was, according to Clarke, "equally violent, of much larger continuance, and I fear, more general than that of last year." The damage to the plantations was "immense, and must be the more severely felt by them, as they had not recovered their heavy losses occasioned by the last." Clarke reported no immediate threat of famine, however, because the island was well provisioned before the storm, but the destruction nevertheless reduced supplies. Before hitting Jamaica, the storm also swept across the Leeward Islands and "wasted almost their whole produce," including "corn and other provisions." Finally, in October 1786 a hurricane-weary Governor Clarke wrote to London, "This

unfortunate island has again been visited by one of those Public Calamities which seem to have become annual in this Quarter of the world."[44]

The repeated destruction wrought by five hurricanes in seven years created tremendous suffering and hardships for Jamaica's slaves. The storms destroyed their main locally grown food, plantains, while the American Revolution eliminated their closest source of imported supplies. The war ended in 1783, but trade between the islands and the new United States remained restricted. After the signing of the Treaty of Paris in July 1783, the British government issued two orders-in-council reinscribing the basic principles of the Navigation Acts that had governed trade within the British Empire since the middle of the seventeenth century. The orders maintained the regulations limiting trade between the islands and the mainland implemented at the beginning of the war. They prohibited importing any American beef, pork, dairy products, and fish, reserving the trade in those items to Canada, Ireland, or England. Island colonists could import flour, grain, lumber, and vegetables from the United States, but only in British ships.[45]

Illegal trade ensured that the islands received some supplies from North America in the years after 1783. In addition, the new laws authorized local officials to make exceptions in time of emergency. Governor Clarke lifted trade restrictions with the United States for a short time after the 1784 hurricane. Officials in Jamaica also prohibited the export of any food from the island in 1785 to help secure slave provisions.[46]

Such measures eased shortages, but they could not replace local provisions and regular trade with mainland suppliers, and many observers charged that British trade restrictions, combined with the destruction caused by hurricanes, resulted in the death of thousands of slaves in the 1780s. The Jamaican Assembly claimed in a 1784 petition to the king that despite the relief efforts organized by Dalling and Kingston merchants after the 1780 hurricane, a "famine ensued" in the western part of the island and "a great number of Slaves perished before any supply could be obtained of the natural productions of the Country or from Europe." One account after the 1786 storm stated that by December, "many thousands of Negroes perished this year in Jamaica by Famine." A committee from the Jamaican Assembly conducted an official investigation and found that at least 15,000 slaves (out of a population of 256,000) perished as a result of the five hurricanes. This number, the committee stated, "may be fairly attributed to these repeated Calamities, and the unfortunate Measure of interdicting foreign Supplies." Many died of "Famine or

of Diseases contracted by scanty and unwholesome diet, between the latter end of 1780, and the beginning of 1787."[47]

Even these numbers, however, appeared low to some observers. One planter in Jamaica, a Mr. Wynne, believed that at least 21,000 slaves died during the storms and from the resulting food shortages. He stated that although he had taken steps to ensure a supply of provisions for his own slaves before the storm, he witnessed "famine-worn creatures on other plantations." Moreover, Wynne believed that "far more were so broken down that they gradually pined away; but as they died not during the scarcity, their death was attributable to fluxes, etc. not considering that these were induced by the preceding famine." If those deaths were included, Wynn concluded, "the sum would be horrible!"[48]

Posthurricane conditions in Jamaica also shocked Hector M'Neill, a Scotsman visiting the island in the early 1780s. "It is not the destruction of whole districts—the complete loss of produce—the ruin of stock, and the demolition of all kinds of works and buildings on each estate, that we are principally to consider," he wrote.

> No! these though dreadful, are small compared with other evils, which, while they must bring down inevitable ruin on the sufferers, must wring the hearts of the compassionate and the humane.—It is the total destruction of those provisions which constitute the support and existence of your Negroes—it is the inability and impossibility of procuring other provisions in time to keep them alive—it is your sick without a hospital—your infirm without shelter; and it is the misery of beholding hundreds of wretched beings wasting around you, clamouring for food, and imploring that assistance which you cannot bestow! These are scenes to awaken sensibility and to make the moralist exclaim with indignation, *Cursed be your isles and cursed your institutions!*[49]

Such statements must be read with some caution. Wynne, M'Neill, and others sought to use the storms for political purposes, which may have influenced their accounts. Wynne, for example, posited a direct connection between slave deaths and restrictive trade policies in an effort to get those restrictions lifted. He criticized the policy of opening Jamaican ports for only limited periods in the wake of hurricanes, arguing that London officials did not appreciate how long it took to get supplies from abroad. The four months allowed for open shipping after some of the storms did little to ease the suffering, he argued, because it took time for merchants to get word and send out ships. Moreover, officious British revenue agents had scared away many North

American traders who worried about having their cargoes seized. With few supplies arriving, "the Negroes had been so debilitated by former want, that they sank under the return of famine, and dropped off in numbers." The hurricane and drought that followed may have been "the inevitable works of God," Wynne argued, but the death of thousands of slaves resulted from "the blindness which was suffered to come over the Government; so far as to tie down the Governor of a colony 5000 miles distant, and to hazard not only its property and happiness, but its very existence, rather than that he should depart from regulations made in Britain."[50]

Hector M'Neill had a different agenda. Unlike Wynne, he interpreted the hurricanes and the loss of life as events that no humans could control. Indeed, despite his exclamations, he did not curse Jamaica or the plantation system. Instead, he cautioned, "Let not calamities be construed into cruelty, nor inevitable destruction be confounded with neglect." M'Neill sought to defend Jamaican planters against charges of abuse made by increasingly vocal critics of slavery and the slave trade in Britain during the last decades of the eighteenth century. An apologist for slavery, he argued that the hurricanes, not the inhumanity of planters, had caused the widespread loss of life among slaves in Jamaica. For M'Neill, the loss of life became an argument in favor of maintaining the African slave trade.[51]

Although the consequences of the 1780 hurricanes became fuel for a variety of political arguments and issues, there is little reason to doubt that the multiple hurricanes that struck during the 1780s, combined with British trade policies, brought exceptional hardship for the island's slaves. Some slaves certainly died from causes unrelated to the hurricanes, but numerous accounts, public and private, suggest that hundreds if not thousands perished from hardships caused by the storms and by the loss of trade with North America. For West Indian slaves who faced seasonal hunger and malnutrition in the best of times, conditions in the 1780s were truly disastrous.[52]

Throughout the seventeenth and eighteenth centuries, hurricanes created distinct issues for planters and slaves in the Greater Caribbean. For planters like Jeaffreson, the physical destruction and social disorder raised immediate concerns about even greater upheaval in the form of slave rebellion or foreign invasion, and anxious planters sought to reestablish their authority and to police slaves by an immediate show of force. Although some slaves took advantage of the chaos to engage in minor looting, for most, hurricanes brought

increased hardships rather than opportunities for resistance. The widespread damage to plantations created additional work for slaves. More important, the storms destroyed provision crops, resulting in "scarce times." Colonists also faced difficult circumstances after hurricanes, but slaves experienced food shortages most severely, and many perished for want of adequate food or from diseases related to lack of nourishment.

Such issues emerged in the wake of hurricanes throughout the seventeenth and eighteenth centuries, but the effect of specific hurricanes also reflected the particular contexts in which they struck. Changing social, political, and economic conditions in the region influenced how masters and slaves experienced hurricanes. This became especially evident during the 1780s when the American Revolution upset long-standing trade relations between the islands and the mainland. Although few colonists articulated a full understanding of the complex forces at work, some recognized that natural disasters are never entirely natural events. As Mr. Wynne noted, the 1780 hurricanes may have been acts of God, but humans played an important role in shaping their impact.[53]

CHAPTER FIVE

# Building for Disaster

In his 1740 *New and Exact Account of Jamaica,* Charles Leslie warned readers and potential travelers to the island that "one is not to look for the Beauties of Architecture here." The island's public buildings "are neat, but not fine," Leslie wrote, while the "the Gentlemens Houses are generally built low, of one Story." In Jamaica's towns, there were "several Houses which are two Stories, but that Way of Building is disapproved of, because they seldom are known to stand the Shock of an Earthquake, or the Fury of a Storm." Historians of early America have long emphasized the importance of climate in shaping the architecture of the Greater Caribbean, particularly in the island colonies, but most have focused on the tropical and semitropical heat, which led to open floor plans and jalousie windows to encourage air circulation, piazzas and verandas to provide shade, and the elimination of chimneys and fireplaces. These accommodations contributed to distinct creole house forms that represented a compromise between colonists' desire to replicate English cultural forms and the reality of the American climate. But as Charles Leslie's brief comments suggest, climate involved more than temperature. Natural disasters, and hurricanes in particular, also influenced architecture in the Greater Caribbean.[1]

Throughout the seventeenth and eighteenth centuries, hurricanes routinely leveled houses, churches, towns, and plantations, and the widespread devastation pushed colonists to rethink some of their basic ideas about construction. Beginning in the middle decades of the seventeenth century, many residents tried to erect buildings they hoped would better withstand powerful storms. The most significant adaptations included reducing their height and altering the materials used in construction. Some colonists also built hurricane houses to shelter them in the midst of a tempest. In addition, by literally sweeping away older buildings, hurricanes acted as a force of "creative destruction" that gave colonists opportunities to redesign the layout of cities and plantations.[2]

These changes contributed to the emergence of a distinct built environment in the Greater Caribbean, one that routinely elicited commentary from observers like Leslie. The influence of hurricanes, however, varied across the region. Architectural adaptations were most pronounced in the island colonies and least visible in South Carolina. Indeed, despite several major storms in the eighteenth century, South Carolinians made relatively few accommodations to hurricanes, reflecting both different social and environmental conditions in the mainland colony and different perceptions of the danger from the storms. Even in the West Indies, hurricanes did not completely transform building practices. Several factors—including experience with other disasters, new colonists who had no experience with hurricanes, and the desire to follow metropolitan fashions—mitigated their influence. Nevertheless, colonists could not ignore the frequent and widespread devastation wrought by hurricanes, particularly in the sugar islands, and over time experience with the storms helped shape a landscape that reflected both the colonists' desire to recreate the world they had left behind and the realities of a new American environment that posed unique challenges to British notions of form and function.[3]

The danger hurricanes presented to buildings became apparent soon after colonists established their initial settlement on St. Christopher in 1624. Early colonists in the region modeled their shelters after Carib Indian dwellings. John Smith wrote that they used "Palmeta [trees] to build Forts and houses, the leaves to cover them." Other accounts described early buildings in the Leeward Islands as "weak structures, which are sustain'd only by four or six forks planted in the ground, and instead of walls are encompass'd and palizado'd

only with reeds and cover'd with Palm or Plantane-leaves, Sugar-canes, or some such material." These huts offered little resistance to hurricane-force winds. Smith reported that in September 1624 a "Hericano . . . blew it away." Two years later a second storm swept across the colony and again "blew downe all our houses." If these early shelters offered little protection against hurricanes, they did have the benefit of being easy to rebuild. By the 1630s some colonists recognized that the collapse of dwellings posed its own dangers. John Taylor's account of a 1638 storm in the Leeward Islands stated that terrified colonists fled their houses and sought shelter in "holes, Caves, pits, Dens, and hollow places of the earth . . . which places are good harbours and defences against the Hurry-Cano."[4]

As soon as they could, colonists sought to construct more substantial houses that better approximated the buildings they had left behind in England. But the failure to develop a staple crop, and by extension an income that could pay for imported tools and materials, meant that housing remained rudimentary for the first few decades of colonization. One Barbados planter named Thomas Verney wrote to England in 1639 that he was building "a sorry cottage" to house the servants he had purchased. One account described buildings in Barbados in 1643 as "mean, with things only for necessity." Surviving evidence is scarce, but most of these dwellings were likely either puncheon buildings, constructed by driving posts directly into the ground and nailing boards across them or "hole-post" buildings, which involved digging holes for the corner posts and burying them at a set depth, making the structure more uniform. Wooden posts sunk in the ground rotted quickly, however, and some colonists replaced such dwellings with mortise-and-tenon frame houses employing sills laid across a foundation of wooden blocks or stones. Still, many visitors remained unimpressed. George Ellwood reported to the Royal Society in 1672 that "ye buildings [on Nevis] are poore much like to a Hogstie in England."[5]

These basic two- and three-room structures almost certainly remained the dominant house form in the region throughout the seventeenth and eighteenth centuries. As late as the mid-eighteenth century, even some relatively prosperous pen farmers in Jamaica lived in three-room houses with mud-mortared walls. But as planters and merchants began to amass significant fortunes after the shift to sugar production in the mid-seventeenth century, they began to replace this "impermanent architecture" with larger, more substantial, and more ornate edifices. As they did, they looked to English designs and

styles for inspiration. England underwent something of a revolution in house building during the seventeenth century, moving from "medieval modes of design" to a "Renaissance style." Important characteristics of this new style, most visible in urban areas and on the estates of the gentry, included more use of brick and stone, greater symmetry in the placement of rooms, doors, and windows to create a classical appearance of balance and order, sash windows, more rooms, and increased height: three- and four-story buildings became common in towns and cities throughout England.[6]

Wealthy colonists incorporated many of these innovations into their own buildings beginning in the latter decades of the seventeenth century. In the major port cities, colonists constructed three- and four-story structures modeled on English urban dwellings. Visiting Port Royal, Jamaica, in the 1680s, John Taylor found "600 well built brick houses, and many built with Timber; the houses are built four story high, covered with Tile, and glaised with Sash Windows." In nearby Spanish Town, Taylor noted that recently constructed brick buildings were "as lofty and butifull as our Buildings in London." Hans Sloane, another late seventeenth-century visitor to Jamaica, found that the colonists' houses were "for the most part Brick, and after the English manner." The governor of Barbados reported that streets of Bridgetown in the latter part of the seventeenth century exhibited many "very fair houses, some of brick, but most of stone." Other travelers noted that "the houses are well built in the English style." Large multistory structures emerged in rural plantation areas as well. Father Labat, a French priest visiting Barbados in 1700, found the "houses on the plantations are much better built than those of the towns." Two extraordinary examples of grand seventeenth-century plantation houses still stand on the island, although they have been altered: Nicholas Abbey in St. Peter's parish and Drax Hall in St. George's parish. The former, with its curved gables, shows the Dutch influence in mid-seventeenth-century Barbados, while the latter, a double house with a multigabled roof, provides a vivid illustration of colonists' efforts to copy European designs and details in their dwellings.[7]

These two houses have withstood centuries of hurricanes, but most buildings in the region did not. Hurricanes routinely leveled the most substantial private dwellings and public buildings throughout the colonies. The 1681 storm in St. Kitts left Christopher Jeaffreson's dwelling "miserably torne, and flat with the ground." After the 1712 hurricane in Jamaica, colonists faced "the most Melancholy and dismal Prospect, many houses in the Towns, as well as

in the Plantations being blown down, others uncovered, and none without some Damage." Seventeen people were crushed to death when the walls of a plantation house in the Scotland district of Barbados collapsed during the 1675 hurricane. The storm "levell'd with the Ground" houses throughout the island, and "the best Planters in the Island liv'd in Hutts."[8]

In addition to strong winds, floodwaters and storm surges regularly threatened structures, particularly in low-lying areas and in coastal port cities. One account from Port Royal stated that during the 1722 hurricane, "Waters sapping the Foundations, gave continual and just Apprehensions of the Houses falling, as in effect half of them did, and buried their Inhabitants." Other accounts reported that dwellings in the town "were tumbling about the People's Ears, and burying many of them under the Ruins, so that they could neither go into the Streets, nor stay in their Houses with any Safety." A tempest in 1780 inundated the town of Savanna-la-Mar in western Jamaica with a "terrible swell of the sea, which, by afternoon, increased to such a degree, that it has not left the wreck of six houses on both the bay and Savanna and not less than 300 people of all colours were drowned or buried in the ruins." Hurricanes in South Carolina routinely flooded the streets of Charleston.[9]

Strong winds and storm surges damaged or destroyed all sorts of buildings in the colonies, but "English style" structures appeared especially vulnerable. Colonists in Jamaica discovered that the dwellings built by the Spanish before the English conquest in 1655 often withstood the worst storms while their own structures crumbled. An account of the 1722 hurricanes in the *Weekly Jamaican Courant* found it "remarkable" that the houses built by the Spanish "suistain'd very little damage" during the storm, despite being among the oldest on the island. Edward Long, writing in 1774, noted that at least fifty preconquest buildings remained in Jamaica and that "their duration for so long a time in defiance of earthquakes and hurricanes, some of which, since the English settled here, have been so violent as to demolish several more modern buildings, is a demonstrative proof of the Spanish sagacity." He found the buildings "excellently well contrived" to guard against the "sudden concussion of earthquakes, [and] the impetuosity of hurricanes."[10]

Spanish houses were not the only structures that remained standing while the colonists' houses collapsed. One eighteenth-century visitor to French Guadeloupe reported to the Royal Society that he was shocked to find "the most solid buildings tumble down; whilst the villages of little huts of the negroes stand unhurt." Charles de Rochefort noted that some colonists sought

out the "the little Huts built by the Negroes" during the height of a storm: "It hath been found by experience that these Hutts, being round and having no place open but the door . . . are commonly spared when the highest houses are remov'd from one place to another, if not quite overthrown by the impetuous agitation of the winds raising this Tempest." Charles Leslie likewise wrote that some Jamaican colonists "retire into the Huts of the Negroes, which are built exceeding low, and elude the Shocks of the Tempest." Slave houses, small outbuildings, and Spanish dwellings, of course, did not always stand up amid a hurricane's fury, but the frequency of comments about them suggests that these "weak" structures may have survived as well as any other buildings in the colonies.[11]

Contemporaries offered several explanations for the surprising durability of these structures. Rochefort implied that the low, circular dwellings presented less surface area for the wind to strike: the winds were deflected around them, whereas the square, flat-fronted houses that colonists built caught the winds like sails. Although Rochefort did not note it, the loose construction of the walls and the thatched roof may have allowed the interior and exterior air pressures to equalize, whereas tighter walls acted as a barrier and eventually collapsed under pressure. Observers offered various explanations for the durability of Spanish structures. One seventeenth-century commentator in Jamaica suggested that Spanish houses "are but one storie height Becas of the Harrie Cane, for he doth many times com and giue them a vissit." Edward Long believed the strength of Spanish houses came from both their overall design and the materials used. The houses had wooden posts, six to eight inches in diameter, sunk two to three feet in the ground. The Spanish colonists constructed these posts from the hardest wood available ("lignum vitae, brazilletto, or fustick"), which was then "well-seasoned and hardened in smoak." They stacked bricks between the posts and covered them with mortar. Wooden rafters, also "hardened in smoak," formed the roof. Smoked canes were tied together with the bark of mangrove trees to cover the rafters. The whole was then covered first with mortar and then with pantiles, which made the roofs strong and thick, in contrast to the thin wooden shingles used on most English houses.[12]

Whatever the merits of such structures, English colonists had little desire to imitate Spanish or Carib forms and techniques as they set about building their settlements. The latter seemed primitive, and English colonists considered the former either too small or too ugly. Writing in the 1680s, John Taylor com-

pared Spanish houses in Jamaica to barns and noted with disgust that the doors were so wide that "three Horsemen may ride in abreast." Long suggested that Spanish-style houses were "inconveniently small" and that many colonists preferred to erect "lofty houses after the models in the mother-country." English colonists let the Spanish buildings decay or converted them into stables and warehouses.[13]

Despite their reservations about non-English structures, the widespread devastation wrought by hurricanes on Jamaica and elsewhere in the region forced many colonists to take steps to reduce their vulnerability to the storms. The most important and notable change was reducing structures from three and four stories to one and two. As early as the 1660s, Rochefort wrote that in the English (and French) islands, "there are many very fair houses of Timber, Stone, and Brick, built after the same manner as those in their own Countries, save that for the most part they are but one or two Stories high at the most, that they may the more easily resist the winds, which sometimes blow in those parts with extraordinary violence." According to John Oldmixon, Barbadians who survived the August 1675 hurricane "were afraid to run up their Houses to any Height" and instead "lower'd their Buildings" in the aftermath of the storm. The churchwardens in St. Michael's parish decided one year after that storm to tear down the remains of the almshouse and to "build it up again one story high with as much conveniency and room as now it hath." The governor of the Leeward Islands reported to London in 1676 that in Charlestown, Nevis, there were "good dwellings and storehouses, built with the country timber, not exceeding 60 feet long and 20 broad, story and a half, the 'Hurri-Canes' having taught the people to build low."[14]

The height of buildings continued to mirror the threat from hurricanes throughout the eighteenth century. An anonymous sailor traveling in the mid-eighteenth century wrote that St. John's, Antigua, contained "upwards of 500 houses pritty well built, tho low on acct. of the hurricanes." Janet Shaw, who arrived in Antigua after the 1772 hurricane, noted that many dwellings were "low and seem to crutch [ed. crouch] as if afraid of a second misfortune." John Luffman agreed, noting in 1786 that the houses "are for the most part low, on account of the hurricanes and earthquakes." A 1746 map provides some illustrations of Kingston houses from the period in which Leslie was writing. Although they have two stories, the houses are relatively low, especially compared with Taylor's description of earlier dwellings in Port Royal or some of the taller urban townhouses being erected in other parts of British America

during this period. Changes to the height of buildings occurred fitfully over time, but by the middle of the eighteenth century lower dwellings had become a distinguishing feature of island architecture.[15]

Colonists also came to believe that low-profile roofs offered the best defense against hurricanes. One visitor to the Danish islands (which were culturally English) in the 1760s noted that "few houses have more than two stories and most of them are one-storied. Because of storms, roofs are low." "Lower" usually meant roofs were hipped rather than gabled, which colonists believed offered less resistance to the winds. Both roof forms were common in the colonies in the seventeenth and eighteenth centuries, but experience with hurricanes often pushed colonists to abandon gables in favor of hipped roofs. The 1780 hurricane crushed the "lofty gables" of William Senhouse's mansion on his Grove plantation in Barbados, and when he rebuilt he ordered "hipping the roof in order to resist with more effect the force of any future Hurricane." Senhouse noted further that use of "gables have since [the hurricane] in a great measure been abolished in Barbadoes." Likewise, after the gable ends of the curing house collapsed on William FitzHerbert's Turners Hall plantation during the same storm, the overseer informed FitzHerbert that he was "flatting the roof of the Curing House." It is unclear if this resulted in a hipped roof or a truly flat one, but considering the importance of having some pitch to allow runoff, it seems likely that "flatting" meant some form of hipping. Roofs in the islands also had little ornamentation: domes or cupolas were rare, as were dormer windows, because of their vulnerability during storms. One visitor to Barbados in the early nineteenth century wrote that "the houses, devoid of ornament, and without chimnies, conveyed the idea of barns."[16]

Beyond changing the height and roofs of their dwellings, some colonists altered their design. In the aftermath of the 1780 storm, a chastened William Senhouse was determined to erect a building better suited to the vicissitudes of the West Indian climate. In addition to eliminating his gabled roof, he rebuilt "in a better stile and on a larger scale the windward wing of the Grove House, making the Eastern end of it circular." This contributed "no less to the strength than, at the same time, the beauty of the building," Senhouse wrote later in his memoirs. Other colonists sought to strengthen their houses by extending the galleries used for shade around the entire house. The Moravian missionary C. G. A. Oldendorp wrote that colonists in St. Croix did so to "give the buildings a bigger foundation and thereby make them more resistant to the winds of storms."[17]

Colonists rethought the materials they used as well. Timber served as the primary building material throughout the region during the early seventeenth century. As the population grew and plantation agriculture expanded, colonists exhausted local supplies and increasingly relied on shipments of wood and other building materials from the mainland colonies. Timber remained important throughout the eighteenth century, but beginning in the 1660s, many who could afford it turned to brick and stone for their buildings, in part because they believed such materials could better withstand hurricanes. A traveler named George Welch reported that in Nevis the "houses comonly of late [1671] are built of Stone, and but one Story high, flatt at Top" because of the storms. The Rev. Robert Robertson in Nevis advocated the use of brick and stone after a 1733 hurricane, noting "such Buildings wou'd prove a better Security against Storms than any we can make of Timber." A survivor of the 1772 hurricane on Antigua wrote that despite widespread damage to his plantation, "the new stone building, containing the Offices, stood it very well & was of great service." During that storm, the governor of the Leeward Islands rushed his wife into a "low, strong, stone Building, near the principal Habitation, which being built of Wood, I thought insufficiently secure." Even those who could not afford to construct an entire house of brick or stone sometimes built one wall of brick and then used timber for the remaining walls, as happened on St. Christopher at the end of the seventeenth century.[18]

Brick and stone, however, did not prove a panacea for residents of several colonies because of another natural hazard: earthquakes. All the colonies of the Greater Caribbean experienced earthquakes during the seventeenth and eighteenth centuries, but the threat, and the corresponding influence on architectural decisions, was most pronounced in the Leeward Islands and Jamaica. Hans Sloane wrote that earthquakes were so frequent in Jamaica that residents expected at least one a year. The island suffered perhaps the most devastating disaster in the region's history when the town of Port Royal sank into the sea during a 1692 earthquake. The Leeward Islands experienced a similar calamity in 1690 when an earthquake destroyed numerous buildings in Charlestown, Nevis. An eighteenth-century minister on the island wrote that during his five-year stay he experienced at least a dozen earthquakes, although they were all minor.[19]

By the middle of the seventeenth century, some residents in the Leeward Islands began to build with stone in response to the threat from hurricanes, but experience with earthquakes pushed them to rethink their decisions. A

1672 earthquake in Montserrat destroyed all the stone houses on the island but left the timber ones standing. The governor reported that colonists had previously constructed "some stone buildings, but the earthquakes having thrown them all down, they build with timber only except the boiling-houses for sugar, which in part must be built of stone." During the 1690 earthquake, "all the Houses in Charles Town that were made of Brick or Stone, dropt a sudden down from the Top to the Bottom in perfect Ruins. Those that were built of Wood were no less violently shaken, but stood." The problem with brick and stone was their rigidity. As one Nevis resident explained after the 1690 calamity, "The Rivetings of wooden Structures are far stronger, and are not so easily disjoynted as the Co-augmentations of Cement and Mortar." Many observers suggested that the presence of so many stone houses in the Leeward Islands contributed to the level of destruction from the earthquake. Accounts of the Port Royal disaster likewise noted that "heavy buildings were everywhere destroyed." When a minor tremor struck Jamaica in 1688, Hans Sloane worried about the "Danger in being in an high Brick House" and tried to escape outside as quickly as possible.[20]

Colonists in the Leeward Islands and Jamaica thus faced an unenviable choice between constructing stone buildings that could (theoretically, at least) better withstand hurricanes but crumbled during an earthquake and building with timber at the risk of having their houses destroyed in a tempest. Individual colonists made their own decisions about which disaster posed the greater risk. In his mid-eighteenth-century history of Jamaica, James Knight suggested that the Spanish viewed hurricanes as the greater threat and designed their buildings accordingly, implying that the English should as well. By contrast, one visitor to the region in the 1780s reported that "the dread of earthquakes . . . induce[s] many people to build their houses very slight, and chiefly of wood." Robertson argued that stone was the best choice for structures in the Leeward Islands. He noted that some might object because of the threat from earthquakes, but he dismissed that idea, arguing that earthquakes resulted in relatively little damage, "whereas many a Life has been lost, and infinite other Damage done by the Fall of Houses in a Storm." Some colonists compromised and built a masonry or stone foundation or ground floor topped with a wooden frame.[21]

In addition, colonists gradually learned to cover their windows with strong storm shutters and to secure them and the doors with sturdy latches, hinges, and bolts. Robertson wrote that "our Inhabitants wou'd do well to be constantly

provided with strong wooden Bars, and to have Iron Hooks and Staples always ready fix'd at their Doors and Windows, into which to pin down those Bars on the Outside of the Houses." Bolting doors and windows before a storm provided greater security for the structures, according to Robertson, because once a door had been blown open and "the Wind enters, and fills the House, and Whirls about within it, if the Door and Windows on the opposite Side are not set open to give it instant Vent, the Roof is in Danger of being carry'd off at once." The South Carolina planter Henry Laurens likewise warned his estate manager to have "have Bars of strong Wood ready to fasten in all your Windows." One eighteenth-century traveler noted that when the signs of a hurricane appeared in the West Indies, "proper precautions are then taken to avoid the fury of the winds; the houses are propped, the windows and doors are barred up, and papers and other valuable moveables are secured in chests." Many colonists hoped that the combination of informed design, sound materials, and commonsense precautions would provide some security against the storms, although they knew that ultimately such efforts offered only minimal protection.[22]

Hurricanes also influenced the construction of slave dwellings on some plantations, particularly at the end of the eighteenth century. Despite Rochefort's comments about circular slave buildings in the seventeenth century, most slave dwellings in the region were small rectangular huts with wattle-and-daub walls and thatched roofs. Slaves usually built their own houses and resisted interference. Planters provided the materials, however, and by the end of the eighteenth century there is some evidence that they intervened in their design, in part owing to experience with hurricanes. On the Codrington plantations in Barbados, the estate's overseer managed the project of rebuilding slave houses after the 1780 hurricane. Another Barbadian planter, Philip Gibbes, offered several suggestions for the design of slave houses a few years after the storm. Gibbes wrote, "No Negro House, not built of Brick or Stone, should be wider than ten Feet. . . . Houses are weaker in proportion as they are wider, & less able to resist High winds." He also believed that "the Roofs of Negro Houses are all much too flat" and recommended that they "should be Hipped—not have gable ends." It is not known to what extent these suggestions were put into practice, but clearly some planters took hurricanes into consideration on their plantations.[23]

Alterations to dwellings were one response to the danger posed by hurricanes. Other colonists constructed special storm shelters, or "hurricane houses" into

which families could flee during a major storm. The earliest evidence of hurricane houses comes from the Leeward Islands. After a French invasion of the islands in 1706, residents of Nevis and St. Christopher sought compensation from the British government for stolen and damaged property, filing claims listing their specific losses. Many of the St. Christopher estates (the Nevis claims have been lost) noted damage to hurricane houses. These were long rectangular wooden structures built low to the ground, although few claims describe houses as "thatched and cain'd round," suggesting that sugarcane trash and leaves tied together formed the walls. Significantly, some descriptions of hurricane houses mention "posts," indicating that they followed the older building pattern of sinking wooden posts into the ground. On some estates the hurricane house was almost as big as the main dwelling. Thomas Joseph had a three-room house measuring thirty-four by sixteen feet, whose value he listed as £250, along with a "Hurry Cano house" measuring twenty-six by thirteen feet and valued at £12. These larger hurricane houses were valued at roughly £15 to £30, but even smaller planters with little capital had storm shelters. John Abbot's estate totaled only £32, but he had a hurricane house worth £3. Another description of a hurricane house comes from the French islands at roughly the same period. According to Jean Barbot, when a hurricane threatened, planters "repair with their families and best moveables to their hurricane huts, each substantial planter having such a one near his plantation; being built low, on large stumps of trees deeply fix'd in the ground, and commonly not above seven foot high, of strong posts fasten'd to each other by cross pieces of timber, with ropes cast over the roof to secure it from flying away."[24]

Hurricane houses also appeared in Jamaica. Thomas Thistlewood wrote that during a September 1751 hurricane "all the white people . . . leave the great house and shelter in the storehouse and hurricane house." Thistlewood later bought his own property on the island, which suffered great damage during major hurricanes in 1780 and 1781. As he set about rebuilding his house in the aftermath of the second tempest, Thistlewood ordered his slaves to construct a separate "stormhouse" for shelter lest another storm strike. His planning proved useful in 1784, when the third hurricane in four years struck the island and Thistlewood and his slaves retreated into the shelter.[25]

During the early nineteenth century, some planters in South Carolina also began building "storm towers" in which slaves could seek shelter from a hurricane. The word "tower" is something of a misnomer for these brick structures,

which were no more than twenty feet high. The buildings were circular, between twenty and thirty feet in diameter, and with walls nineteen inches thick (see fig. 2). The floors were several feet off the ground to prevent sinking into the loose soil of the coastal region. The towers provided important shelter for slaves working in the rice fields of the low-lying Santee Delta. Use of the towers developed after the 1822 hurricane when dozens of slaves lost their lives.[26]

Despite their appearing at different times and places throughout the region, the use of hurricanes houses does not seem to have been constant or widespread. Most of the St. Christopher claims do not mention hurricane houses specifically. There is no evidence of hurricane houses in Barbados during this period, and they seem to have fallen out of favor with planters in Nevis and St. Christopher by the mid-eighteenth century. Reverend Robertson noted in the aftermath of the 1733 hurricane that "Seventy or Eighty Years ago, our more provident Planters used to have what they call'd a Hurricane-House, to take Refuge in, in a Storm." The houses were "14 or 16 Feet square, and made of Stone and Lime from 3 to 4 Feet from the Ground to the Wall-plate, with Roofs as strong as cou'd be made of Hard-Wood." He wrote that he had seen the remains of such structures on the island and that they were still in use on

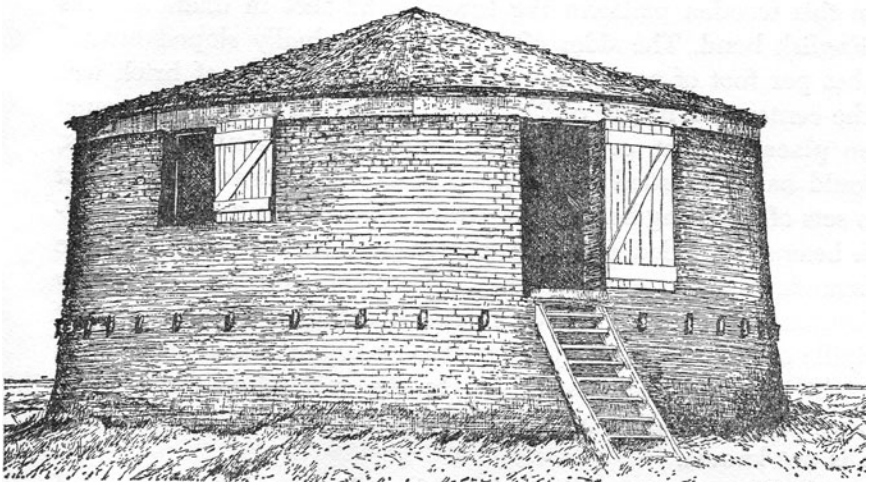


*Figure* 2. A conjectural drawing of a nineteenth-century hurricane shelter in South Carolina. From Elias Bull, "Storm Towers of the Santee Delta," *South Carolina Historical Magazine* 81 (April 1980): 95–105.

French Martinique, and he recommended that residents start building them again. Robertson claimed that such a structure would cost no more than £200, money well spent because a plantation equipped with a "Hurricane-Castle" would command a higher resale price. There is no evidence that any local planters followed his advice, however.[27]

Why the use of hurricane shelters declined is unclear, but there are several possible explanations. Some planters, such as the ones Thistlewood described, may have used storehouses or other buildings as storm shelters, since they were constructed along similar lines. Others may have had faith in the improvements they had made to their dwelling houses, believing that their lower brick and stone houses offered the best protection from the storms. Regardless, the presence of hurricane houses or storm towers at various times in various colonies helped distinguish the plantation landscape of the Greater Caribbean during the seventeenth, eighteenth, and—in South Carolina—nineteenth centuries.

Hurricanes destroyed public buildings as well as private homes, and colonists also modified these structures to reduce their vulnerability. Governor Sir Jonathan Atkins reported that most of the churches on Barbados "were thrown down to the ground" or damaged during the 1675 hurricane. In Bridgetown, the storm blew the roof off the church, and the vestry ordered churchwardens to provide palmetto leaves to cover it. A report on churches in Jamaica in 1724 detailed the damage from a hurricane two years earlier. St. Andrew's parish had "a very fine small Church before the Hurricane, but much shattered then, and not yet rebuilt." Clarendon parish had "at the place called the Cross, one of the finest Churches in the Indies before the late hurricane," while the church at Vere was "much shattered in the storms of 1711 [*sic:* 1712], 1722." Even structures that managed to survive several storms over the course of the seventeenth and early eighteenth centuries eventually succumbed. St. George's in Barbados, initially built between 1637 and 1641, apparently lasted until 1780, when the "Great Hurricane" demolished it, along with most of the other church buildings on the island.[28]

As colonial vestrymen surveyed the damage and envisioned the new structures that would rise from the ruins, they took precautions similar to those of individual property owners. Brick and stone replaced wood, with the prayers of parishioners against future devastation sometimes inscribed on the walls. "Erected from the Ruins of an unsparing Storm," reads the tablet above the

door of St. George's, Barbados, completed in 1784: "Long may this Structure lift its vulnerable Head, unhurt by slow and creeping Hand of Time, or by the ruder and undistinguishing Assaults of Winds and Storms." Steeples, increasingly common in mainland cities, graced some churches in the islands, but they never appeared in great numbers. Instead, eighteenth-century West Indian churches often had squat, castellated towers, giving them a Gothic character. Many of the churches on Barbados rebuilt after the 1780 hurricane, including St. Lucy's, St. George's, and St. Michael's, provide good examples of this change. Likewise, the "elegant" brick St. Catherine's Church in Spanish Town, rebuilt after the 1712 hurricane, had no tower or steeple during the eighteenth century. "As it is without a tower," Edward Long noted, "the congregation is summoned by a small bell hung in a wooden frame, which is erected in the church-yard."[29]

Some colonists may also have altered the floor plans of their churches in response to the threat of hurricanes and other disasters. According to Charles Leslie, churches in Jamaica's towns were "generally in the Form of a Cross," which may have reflected colonists' experience with hurricanes and other disasters. "Cruciform churches, with their narrow roof spans, shorter wall spans, and twelve mutually-buttressing 90 degree corners," architectural historian Louis Nelson writes, "may have seemed the more stable option than the longer linear plan or the broader auditory churches." Certainly the threat from various calamities occupied a prominent place in the minds of Port Royal vestry officials. After losing three churches in the previous thirty years from the earthquake and two hurricanes, officials in 1725 erected a cruciform church with walls more than four feet thick, hoping such excess would allow the church to survive the next calamity that seemed certain to strike the star-crossed city.[30]

In addition to churches, some government buildings reflected the dangers posed by hurricanes. The best collection of eighteenth-century official structures surviving in the British islands is in Spanish Town, Jamaica, where the King's House, Assembly House, and colonial courts ring a central square. These impressive buildings incorporate numerous neoclassical elements, mimicking prevailing architectural trends in Britain. Jamaicans were immensely proud of their government buildings: Edward Long called the King's House "the noblest and best edifice of the kind, either in North-America, or any of the British Colonies in the West-Indies." But even these buildings acknowledged the realities of the region's climate. They are low and long, with little roof ornamentation. (A small cupola briefly sat atop the Assembly House roof, but it was

quickly discarded because it was "too cumbersome." A cupola, however, was added to the court buildings in the nineteenth century.) The Assembly House included a long arcade across the front for shade from the tropical sun, and the gallery above was later covered for the same purpose. Both the King's House and the Assembly House contrast sharply with the statehouses of Pennsylvania and Boston, with their tall towers, and the governor's mansion in Virginia, with its multiple stories, dormer windows, and elaborate cupola. Colonists in Jamaica and elsewhere in the islands were eager to proclaim themselves members of the British Empire, but by the eighteenth century hurricanes, along with other environmental forces, shaped their efforts at cultural mimicry.[31]

The cumulative effect of various architectural adaptations to the threat from hurricanes helped create a distinct built landscape in the region, one that routinely elicited comments from both colonists and visitors. Hurricanes, however, did not completely transform building practices. As Edward Long and others observed, some colonists continued to model dwellings on metropolitan designs and "English styles." They did so for a variety of reasons. Some believed that the threat from storms had receded or that the destruction of English-style houses was a fluke. John Oldmixon, for example, reported that by the early eighteenth century Barbados contained "many high Houses and some low ones." Colonists who "built immediately after the Great Storm in 1676 [*sic:* 1675]," Oldmixon explained, "were so apprehensive of another, that they lower'd their buildings; but those that have built since then, not having those Apprehensions, have rais'd their Houses to three and four Stories high, and the Rooms are as lofty as in England." Despite the widespread devastation caused by the storm, on his visit in 1700 Father Labat encountered numerous houses built in an "English style." William Senhouse likewise suggested that the "toply houses" that became common in Barbados in the decades before the 1780 calamity reflected the belief among some that the threat from hurricanes had ceased.[32]

Some colonists clearly tempted fate, refusing to acknowledge the danger. Others viewed the destruction from an individual storm as a once-in-a-lifetime event and simply rebuilt in familiar forms.[33] Indeed, the colonists' desire to recreate English cultural forms remained strong over the eighteenth century, and aesthetics sometimes trumped safety. Janet Shaw found on her visit to Antigua a few years after the 1772 hurricane that "by degrees [some houses] have come to the same standard as formerly." One Leeward Island resident believed that the continued presence of European designs and styles also re-

flected the ongoing immigration of new colonists, many of whom had never experienced a storm, were skeptical of the danger, and found local adaptations unappealing. According to Robert Robertson, although the Leeward Islands experienced several minor storms between the devastating hurricanes of 1707 and 1733, damage was slight and many new immigrants failed to appreciate the threat. "Many of the present Inhabitants of our Leeward-Islands," Robertson wrote after the 1733 hurricane, "(especially of St. Christopher's) having settled here since the grand Storm in 1707, and suffer'd nothing very grievous from that Time by Storms, are too easily induc'd to study Ornament and Convenience in their Buildings, rather than Safety." Thus hurricanes did not suddenly and universally alter colonial building practices; rather, change occurred over time and in response to specific calamities.[34]

Hurricanes' influence on architecture also varied across the region. Adaptations appeared most pronounced in the Leeward Islands and Jamaica and least in South Carolina, where residents made few outward accommodations. Unlike travelers to the West Indies, visitors to South Carolina did not comment on the relation between hurricanes and architecture, and no mainland equivalent of Charles Leslie criticized the lack of refinement. Instead, visitors praised Charleston's anglicized buildings.

South Carolinians did not lack an appreciation of the power of hurricanes. Buildings in Charleston and the surrounding lowcountry repeatedly were damaged by hurricanes. One account written after the 1686 tempest noted that "the greatest part of our houses are blown down and still lie in their ruin." Many houses were "blown down & more damnified" in the 1700 tempest, and reports indicate that storms in 1713 and 1728 likewise damaged or destroyed numerous dwellings. The most spectacular damage occurred during two hurricanes in 1752, particularly the first, on September 15, which flooded Charleston. Accounts reported that the sea "rose upwards of Ten feet above the high-water mark at spring-tides." The storm left large parts of the city in "ruins, many wooden houses were wrecked to pieces and washed away, and brick houses reduced to a heap of rubbish." The storm also damaged the surrounding plantations. Plantations on James and Kiawah Island were flooded and many houses were "beat down," while "the plantations between the Pon Pon and Santee River had their negro houses and many of their out-houses blown down."[35]

Despite such experiences, South Carolinians followed metropolitan styles and designs more closely than other colonists in the Greater Caribbean, and

travelers and residents alike celebrated the "Englishness" of buildings in Charleston and the lowcountry. South Carolina's economic growth coincided with the emergence of Georgian design, and many of the dwellings in the capital city followed that fashion. Wealthy planters and merchants built three- and four-story single and double houses that reminded visitors of English structures. As early as the 1720s, one traveler commented on the "very fine" houses in Charleston, most "Glazed with Sash Window after the English Fashion." A British military officer visiting in the early 1760s wrote, "Many of the houses belonging to Individuals, are large and handsome, having all the conveniencies one sees at home."[36]

Public buildings also mirrored contemporary English designs more closely than their counterparts in the Indies. Charleston's two major eighteenth-century churches, St. Philip's (1723) and St. Michael's (1762), both boasted fine, tall steeples. The former was begun in 1711, but the 1713 hurricane damaged the incomplete church. Construction was halted for a few years, and the disaster and delay allowed for the incorporation of new ideas about church building that were circulating in London at the time. When finished, St. Philip's struck one later visitor as a "grand church, resembling one of the new churches in London." St. Michael's likewise followed eighteenth-century English designs and boasted a tower and spire that rose over 165 feet. The statehouse and exchange in the city also closely followed English building styles.[37]

South Carolinians did accommodate themselves to the region's climate. By the end of the eighteenth century, colonists had added piazzas to provide shade, for reasons of health as well as comfort. Colonists turned to brick during the eighteenth century for better security against both hurricanes and fires. The use of brick in Charleston increased after the 1740 fire, and Governor James Glen suggested that such solid dwellings provided some security during the 1752 storms. After cataloging the deaths of numerous colonists in Charleston, Glen noted that "Numbers more must have perished had not our Houses been very Substantial, all those especially upon the Bay are so." In other parts of the city, "where the Houses were slight, and the Situation low," the storm caused greater damage and presented a "most surprising and shocking scene." As a result, residents used even more brick as they rebuilt during the 1750s. According to a Rhode Island merchant who had visited the city in the 1740s and returned a decade after the hurricane, the city had doubled in size and "had increased with sumptuous brick houses in very great number.

One cannot go anywhere where one does not see new buildings and large and small houses started, half-finished, and almost finished."[38]

The shift to brick, however, was based on influences besides storms, and there is little of the specific commentary linking hurricanes to building materials that appears in West Indian accounts. Likewise, the issue of height, so common in descriptions of West Indian dwellings, is absent from discussions of the South Carolina landscape, and though hurricane houses eventually appeared in the low country, it was not until the early nineteenth century. Why hurricanes seemed to have had so little influence on South Carolina's architecture is not entirely clear. Hurricanes generated great concern among planters and merchants like Henry Laurens and John Guerard, who feared their economic effects on plantations and trade. Moreover, the storms worried Laurens enough that he warned his overseer to take steps to secure his house during the hurricane season. Such concerns, however, do not appear to have altered general building practices in the colony.

Real and perceived differences between the lowcountry and island environments provide one explanation for Carolina colonists' willingness to copy English styles more fully than their West Indian counterparts did. Carolina experienced fewer hurricanes than other parts of region and, more important, many contemporaries believed they were not as strong or as damaging as those in the Caribbean. The naturalist Mark Catesby stated that Carolina was at the northern edge of the hurricane zone and that the storms "are much mitigated in their force by the time they reach Carolina." That perception, combined with a strong desire to mimic English culture, may have been enough to shape colonists' actions. Moreover, the climate of the colony was different from that of the West Indies. Despite the tropical summers, weather along the mainland coast was more variable than in the islands, and frost and ice were not unknown during the winter. Governor James Glen believed that South Carolina's "Climate is various and uncertain, to such an extraordinary Degree, that I fear not to affirm, there are no people on Earth, who, I think, can suffer greater extremes of Heat and Cold." Having to accommodate themselves to the intense summer heat and also to the mild but occasionally cold winters meant maintaining functional items like chimneys. As a result, colonists had reason to follow English models more closely than did their Caribbean counterparts. South Carolina shared many social and environmental characteristics with the West Indian colonies, including experience with

hurricanes, but it was not a tropical island, and its buildings reflected that difference.[39]

Finally, the influence of hurricanes on architecture and building practices extended beyond damage to individual structures and the modifications colonists made in response. The destruction of numerous buildings at one time in colonial cities and on plantations let colonists reimagine the layout of the built landscape in a broader sense, and many embraced the opportunity to transform and "improve" the physical spaces they occupied.

Some planters took advantage of the widespread destruction to alter the arrangement of buildings on their estates. William Senhouse, for example, disapproved of the common practice of allowing land surrounding the main dwelling house on plantations to be "appropriated for the use of the Negroes, their houses &c &c.," which he believed formed "altogether a nuisance not at all to be tolerably borne." As Senhouse set about rebuilding after the 1780 hurricane, he ordered the quarters moved to what he called a "better situation where they were disposed in regular streets, every house in the centre of a piece of ground 20 yds. Square." In place of the slave houses, he planted a series of walks bordered by mahogany, coconut, and bamboo trees. As the bamboo walks grew, they formed an "impenetrable and most agreeable shade of about 200 yds. when taken all together." He claimed that the bamboo walks were the first of their kind in Barbados, and he took pride in his aesthetic achievement.[40]

A reorganization of space also occurred on Turners Hall plantation after the same storm. The overseer, Richard Gill, undertook a systematic survey of buildings on the estate to determine whether they should be rebuilt in the same place and what functions they should serve. He informed the absentee owner William FitzHerbert that the boiling house and curing house should be rebuilt on their existing sites because the expense of moving them was too great. He consulted with a doctor about the position of the sick house, and both agreed "that tis on the best situation for that use." Gill altered the space inside that building, however. Previously it had served as hospital, jail, and cooper shop, but Gill moved the cooper shop elsewhere, leaving just the "Sick House & Dungeon" in the new building, which he claimed was "now sufficiently large & very commodious & pleasant." Likewise, he reorganized the still house and distillery, placing what had been separate operations and buildings ("with much waste room in the Distillery") under one roof.[41]

The reorganization of physical space in the wake of calamities also occurred in urban areas. Most cities in the region lacked formal plans and grew haphazardly in the years after their initial settlement. Disasters presented a chance for some form of city planning. In the aftermath of the 1780 hurricane, local leaders in Savanna-la-Mar petitioned the Jamaican Assembly "to lay out the town anew, in a more regular manner." They hoped to move part of the town farther inland so that "their lives and properties may be rendered more secure against perils of . . . nature" and to build on a "uniform and secure plan."[42]

In Charleston, South Carolina, repeated destruction from hurricanes and fires over the course of the eighteenth century contributed a great deal to the city's physical layout and growth. Charleston (actually its second incarnation) developed on a peninsula between the Ashley and Cooper Rivers. The city had a formal plan at its inception in 1680, but it also exhibited many medieval characteristics, including defensive walls and a moat. It outgrew these boundaries during the eighteenth century and expanded somewhat randomly across the peninsula. Disasters gave officials the chance to order this otherwise unplanned growth and to improve surviving parts of the city. A hurricane in 1700 destroyed most of the landing places along the Cooper River, and local officials ordered residents with property there to build a retaining wall. Damage from a storm in 1713 contributed to the ultimate dismantling of the medieval walls that surrounded the city, although that took a few years.[43]

The 1752 hurricanes were particularly important in shaping Charleston's layout and appearance. After the storms, officials ordered many of the streams, creeks, and ponds that ran through the city filled in to allow for more construction. Streets were widened and extended across the peninsula. South Carolina officials also took advantage of the hurricanes' devastation to redesign and improve the city's defenses. Governor James Glen complained that the forts had been hastily constructed over time in a piecemeal fashion. If poor planning "has been formerly our Error," Glen stressed to the Assembly in October 1752, "let us not now persist in it." The hurricanes provided a chance to think again about the city's defenses. The plans sparked controversy between the governor and the Assembly over the relative power and prerogatives of the branches of government that delayed their implementation, but ultimately Charleston's forts were reconstructed. The new fortifications that stretched around the city's southern point were four feet higher than the previous defenses, which not only strengthened Charleston militarily but offered

increased protection against the swelling seas that flooded the city during major storms.[44]

Nowhere is the relation between disasters and urban planning more evident than in the establishment of Kingston, Jamaica, in the 1690s. Port Royal, a bustling trading center on a thin slice of land jutting out into a large natural harbor on Jamaica's southern coast, was the island's major port during the seventeenth century. As it grew, the city spread out haphazardly along the peninsula: the narrow streets and alleys followed no set pattern, and houses clustered tightly on small lots. The great earthquake in June 1692 sent much of the city plunging to the bottom of the harbor. In the aftermath of the disaster, local officials deemed Port Royal unsafe and ordered that a new city be built across the harbor. Unlike Port Royal, Kingston was planned. Streets formed a grid, with a central square bordered by the church and other public buildings. All the main thoroughfares ran up from the harbor. Wide streets and relatively large building lots made Kingston seem more open and spacious than Port Royal.[45]

Kingston's plan likely reflected a number of influences, including Spanish town planning ideas and William Penn's recent design for Philadelphia.[46] But Kingston's layout also may have reflected the experience of the earthquake. Wide streets and large house lots offered greater protection against falling buildings, which had caused hundreds of deaths in the earthquake. Such planning ideas were common, if not always implemented, in the aftermath of earthquakes in Europe and Spanish America in the seventeenth and eighteenth centuries, and it seems possible that they also influenced Jamaican officials who wanted to avoid a similar tragedy. Kingston's plan also provided greater security from falling buildings during hurricanes and would help limit the major scourge of all early modern cities—fires.[47]

The dramatic destruction of Port Royal in 1692, and the subsequent planning of Kingston, sometimes overshadows the rebuilding of Port Royal after the earthquake. Residents complained that Kingston was sickly, and many wanted to rebuild in what they considered a better site for a port city. Port Royal gradually "increas'd in people who were invited to settle there by its Convenience for Trade," noted one eighteenth-century historian. Although "very short of its former Splendor," it soon contained "700 Houses and Warehouses." But Port Royal's woes continued. A major fire in 1703 burned the city to the ground, and in 1712 a hurricane pounded the southern coast, again damaging the city. Still, Port Royal hung on and, like a phoenix, continued to

rise from its own ashes and debris. Only after another major hurricane struck in 1722 did Port Royal finally cease to be a significant urban center and shipping point. The remaining buildings mostly housed military officers and troops stationed at Fort Charles. Thus, while Kingston owes its existence to the 1692 earthquake, Port Royal's demise as an important urban center must be located later in the eighteenth century, and hurricanes played some role in it.[48]

Jamaica's physical and social landscape underwent numerous transformations between the time John Taylor visited the island in the 1680s and the time Charles Leslie recorded his impressions in the 1730s. When Leslie wrote, Port Royal no longer dominated the colony's social and economic life. The town remained, but it was replaced in commercial importance by the new, formally planned city of Kingston across the harbor. Likewise, few seventeenth-century buildings remained on the island other than those the Spanish had built. A series of hurricanes in 1712, 1722, and 1726, along with the great 1692 earthquake, leveled the dwellings, churches, and other structures built by the early settlers. Not only had the old structures disappeared, so too had the old ways of building. Gone for the most part were the three- and four-story dwellings modeled after English buildings that had impressed Taylor. In their place were the lower houses that Leslie found lacking in any real architectural grandeur but that appeared better suited to the disaster-prone environment.

In the half century between Taylor's and Leslie's writings, colonists in Jamaica and elsewhere in the Greater Caribbean had learned to accommodate themselves to their physical environment. Hurricanes were not the only force influencing construction methods and designs: the tropical heat and humidity played an important role in the development of distinct architectural styles. Buildings in the region also showed the mixture of various European and African cultures and the social hierarchies and relationships of plantation society. Nevertheless, the widespread and repeated destruction by hurricanes helped alter colonists' notions about architectural form and function.[49]

Adaptation took time, and the rate and extent of change depended on a variety of factors, including accumulated experience with hurricanes, perceptions of the threat the storms posed, the complex array of environmental forces facing colonists (including other disasters such as earthquakes), the continued migration from Europe of men and women who had to learn on their own the hard lessons nature taught, and the continuing desire among many to replicate metropolitan forms and designs. Changes in the landscape

thus were more pronounced at some times and in some places, but over the seventeenth and eighteenth centuries, and throughout the region, colonists gradually took steps to accommodate their buildings to the presence of hurricanes. Though their efforts offered only minimal protection against the storms' fury, they represented one part of the larger process of constructing colonial landscapes in which familiar English cultural forms were balanced against the realities of the American environment.

CHAPTER SIX

# Sympathy in Distress

"The dreadful effects of the hurricane which happened here on Monday, the 31st of August, 1772, will be so long felt by the unfortunate inhabitants of this country, that they must make the deepest impression upon every sensible mind," reported the *St. Christopher Caribbean and General Gazette* a few days after the major storm had passed through the Leeward Island chain. "However in the midst of this distress," the paper continued, "some generous spirits have manifested their humanity, by contributing liberally for the relief of the poor, who have suffered in this parish [St. George, Basseterre], and the example is too benevolent not to be adopted in the others." Accounts in the *Virginia Gazette* noted that the governor of St. Croix "has set apart a very handsome Sum to be shared amongst the poorest sufferers," and that throughout the region, "Great numbers of Planters, Merchants, and others . . . have afforded the most liberal and benevolent Assistance to their poor Neighbors in the Day of Distress."[1]

Throughout the seventeenth and eighteenth centuries, the widespread devastation accompanying hurricanes created both immediate and long-term hardships for colonists in the Greater Caribbean, and charitable donations

from "generous spirits" often provided important assistance to victims. Disaster relief came from two major sources. Local donors provided the most immediate aid throughout this period. Building on the medieval tradition of church or charity briefs, local parish churches often organized relief efforts and collected funds and supplies for sufferers within the colony. Colonial governments sometimes supplemented these efforts by allocating direct monetary grants to sufferers, by purchasing essential supplies, or by reimbursing private individuals for large donations of supplies.

In addition to local charity, colonists also sought assistance from England and from other British colonies in America. Such assistance played only a minimal role in aiding disaster victims during the seventeenth and early eighteenth centuries, but by the second half of the eighteenth century relief campaigns in Britain and in the colonies routinely raised significant sums for colonists in the Greater Caribbean and elsewhere in British America. The largest of these campaigns followed the 1780 hurricanes and raised tens of thousands of pounds from donors across Britain to aid victims in Barbados and Jamaica. Although it took weeks, sometimes months, and occasionally years before this outside aid was collected, sent to the colonies, and distributed among victims, humanitarian relief played a growing role in postdisaster recovery efforts.

Several overlapping forces contributed to the development of this Atlantic-wide system of disaster relief during the second half of the eighteenth century. The growth in the number of newspapers and periodicals in Britain and the colonies, the increased economic connections among the colonies and between the colonies and Britain, the emergence of a humanitarian sensibility among residents on both sides of the Atlantic, and an expanded sense of British nationalism and patriotism that viewed far-off colonists as fellow subjects rather than strangers ensured that news of disasters spread widely and quickly and that more and more people felt compelled to help alleviate the suffering. Not every hurricane or major calamity resulted in a formal relief campaign, but their frequency after 1740 represented a significant new way that colonists recovered from hurricanes and other calamities.

Colonists also often sought disaster relief from the British government, and they occasionally received it, most notably after the 1780 hurricanes when Parliament allocated £120,000 sterling to victims in Barbados and Jamaica. Parliament's action in 1780 was extraordinary, and for that reason the grant and its distribution will be explored separately in chapter 7. Moreover, be-

cause humanitarian assistance emerged in response to a variety of calamities, this chapter examines relief efforts to victims of fires, drought, disease, and earthquakes as well as hurricanes, in locations ranging from Montreal to Bridgetown.

Efforts to raise funds for disaster victims had a long history in England before the beginnings of colonization in the early seventeenth century. Floods, epidemics, earthquakes, and fires routinely brought damage and despair to towns and villages throughout England, and in the wake of such calamities, donors often came to victims' aid. Charity briefs were the primary tool for raising relief funds. Charity briefs (also called king's briefs, church briefs, and letters patent) had their origin in the medieval church briefs that the pope issued to raise funds for specific projects, often to repair churches destroyed by fires or to ransom Christian captives in the Holy Land. After the English Reformation in the 1530s, the monarch (or some authorized official) replaced the pope as the granter of briefs, but the basic structure of the system remained unchanged. In the aftermath of a calamity or when a specific issue arose, local officials requested the right to make an appeal on behalf of the victims. If the request was approved, notices were sent to parishes calling on ministers to read a description of the calamity or issue to their congregations. Clerks bellowing "Please remember the brief" collected donations at the end of the service, and churchwardens sometimes followed up with door-to-door collections in the parish. The money was then sent to vestrymen or other local officials for distribution to victims.[2]

Charity briefs were an effective means of raising money, and the number issued in England expanded dramatically during the seventeenth century—so much so that some people grew weary of the practice. "The trade of briefs is come now up to so constant a source every Sunday that we resolve to give no more to them," complained the indefatigable diarist Samuel Pepys in 1661: "A good sermon and then home to dinner." Despite Pepys's misgivings, charity briefs routinely brought significant donations. Briefs raised funds for a variety of purposes during the sixteenth, seventeenth, and eighteenth centuries: church repairs, aid for persecuted Protestants in France and Ireland, the redemption of English sailors captured by Barbary pirates, and most notably, disaster relief. An appeal in 1686 raised money for victims of flooding in Cumberland, and another in 1704 solicited for "Seamen's widows made so by a dreadfull storm and tempest (call'd a Hyrrecane)" that struck England in November 1703. Most disaster

briefs, however, solicited funds for victims of fires. In London, 67 percent of briefs issued between 1654 and 1772 aided fire victims, as did 63 percent of all briefs issued in Buckinghamshire between 1648 and 1779.[3]

Although in theory publicizing causes far and wide, in practice the system of charity briefs was more limited geographically, especially for victims of disasters. Briefs proved most effective in raising money from neighboring communities, where donors had firsthand knowledge of the calamity and the sufferers. Successful national appeals existed in the seventeenth and early eighteenth centuries, but charity briefs usually were most effective in gathering funds in local communities rather than distant ones.[4]

Colonists carried the system of charity briefs with them to the New World. The governor replaced the king as the granter of briefs, but the system operated along similar lines. As in England, briefs raised money for various purposes, including disaster relief. One Jamaican suggested after the 1703 Port Royal fire that "a brief . . . is customary amongst Christians for the relief of their brethren." Barbadian leaders "ordered that a brief be prepared for raising some money" for drought victims in St. Philip's and St. Lucy's parishes in 1701, and ministers preached a charity sermon when drought plagued the island again in 1734. Residents of Charleston donated £683 for fire victims at a special fast-day service after a 1740 blaze. One Boston church donated £555 to a brief for thirty families whose houses were destroyed in a November 1759 fire, and double that amount after the great fire of 1760 devastated the town. No specific evidence exists for charity briefs after hurricanes during the late seventeenth or early eighteenth century, but given their use after other disasters, it seems certain that local officials used them to assist hurricane victims.[5]

Charity briefs provided a structured means of raising money, but individual parishes at times solicited funds without the formal authorization of a brief. The governor of South Carolina did not issue a charity brief after the terrible 1740 Charleston fire, but parishioners in both Christ Church and Goose Creek contributed to their distressed counterparts in St. Philip's (Charleston's parish). Individuals and groups also donated money on their own. The Free Masons lodge in Charleston raised £50 for victims of the fire, and the wealthy merchant Gabriel Manigault gave £1,500 to the St. Philip's vestry.[6]

In addition to donations raised in churches by charity briefs, grants from local governments provided some aid. These local public relief measures took several forms. Individuals sometimes petitioned for and received direct aid from local governments. Henry Flint of Boston got some money from the

town in "consideration of his late greate loss through the hand of Gods Providence by fire" in 1644. The South Carolina Assembly allocated funds to help support Joseph Bee, a Charleston carpenter who was burned while fighting the 1740 blaze. Colonial assemblies also sometimes allocated funds to purchase essential supplies to distribute among victims. The Jamaican Assembly, for example, financed the purchase and distribution of beef, flour, and other provisions after the 1703 fire in Port Royal.[7]

In addition, local officials at times appropriated a block of money to distribute directly to a large group of victims. South Carolina's Assembly granted £1,500 for victims of the great fire of 1740 and authorized the vestrymen of St. Philip's parish to distribute the money to victims. The General Court of Massachusetts appropriated £600 in June 1752 to relieve "the Poor of the Town of Boston, under their Distresses occasioned by the Small Pox." The governor issued a charity brief at the same time. Massachusetts officials again reached into the public purse in 1760, granting £3,000 to victims of the 1760 fire. The money was distributed directly to those who lost property in the fire in specie.[8]

After some disasters, colonial leaders aided victims by backing loans made by private individuals, which were then used to purchase relief supplies. The Antiguan Assembly passed a resolution after the 1772 hurricane calling for a "Tax to secure the Payment of £20,000 sterling to such Person or Persons, as will advance the same in order to supply the present Exigencies of the Island." Finding a donor proved difficult, and it appears the tax was never implemented, but pubic officials were ready to intervene. The Jamaican government did use public funds to reimburse private donations after the October 3, 1780, hurricane that swept across the western parishes of the island. A group of Kingston merchants meeting immediately after the storm pledged £10,000 to aid hurricane victims. The money bought supplies and provisions, including flour, bread, peas, and pork. Their pledges were not charity, however. Soon after organizing the relief, the merchants petitioned the Assembly, declaring that the donations were raised with the "confidence that the house [Assembly], from their known principles of justice, would restore the amount to the subscribers." Officials readily agreed and granted certificates to the donors for repayment. The certificates were in essence bonds; they earned 6 percent interest and were redeemable at a later date.[9]

Finally, on at least one occasion during the eighteenth century local officials sponsored a lottery to raise money for recovery efforts. Barbados officials passed

a bill in 1783 authorizing a lottery to raise £5,000 for rebuilding St. Michael's Church in Bridgetown after the 1780 hurricane. The king rejected the initial plan, arguing that the lottery had to help all the churches on the island. Officials in the island responded with a new bill creating two lotteries, one for St. Michael's and another for the remaining churches. The sale of tickets began in February 1785, but sales were slow; at one point the governor tried selling tickets in the Leeward Islands. In May 1786 local officials discovered that many unsold tickets had disappeared, and they immediately halted the lottery. According to nineteenth-century historian Robert Schomburgk, one of the managers had stolen the money and tickets. Although unsuccessful, the lottery represented another means of raising money for recovery efforts.[10]

Local fund-raising provided the primary disaster relief, particularly before 1740 or so, but colonists in the Greater Caribbean also occasionally received assistance from individuals and groups in Britain or other colonies. Religious groups in various parts of the British Atlantic world at times organized campaigns to collect money for their brethren who were victims of disasters. After the 1692 Port Royal earthquake, for example, London Quakers offered relief to Jamaican Friends who had been "stript of all" by the calamity. Likewise, Philadelphia Friends raised money for residents of Charleston who were burned out in the 1740 fire. New England colonists assisted colonists in the West Indies at various times during the seventeenth century. After an infestation of "strange and unusual caterpillars and worms" that destroyed cassava and other food plants on Barbados, Massachusetts officials rushed extra provisions to the island, although it is not clear if the food was a charitable donation. Massachusetts issued a charity brief to raise funds for colonists from St. Christopher who sought refuge in New England after the French had captured the colony in 1666, and residents made a generous donation to London to assist victims of the Great Fire that same year. Bay Colony residents again came to the relief of their West Indian brethren when St. Christopher was devastated by another French invasion in 1706. The Plymouth church raised £6 10s. for colonists, while the church at Salem raised £41.[11]

Donations from Britain and the northern colonies provided only minimal assistance during the seventeenth and early eighteenth centuries. That began to change during the middle decades of the eighteenth century. Beginning in the 1740s, disaster relief expanded in size and scope. Donors in Britain and in distant colonies increasingly offered help to victims of fires, hurricanes, and other calamities in the Greater Caribbean and elsewhere. The amount of money

raised, moreover, frequently dwarfed previous efforts. Charity briefs in Massachusetts, Pennsylvania, Barbados, and elsewhere raised over £7,000 sterling for Charleston fire of 1740 victims. Residents of Boston received over £4,000 in aid from other colonies after a 1760 fire, and London merchants contributed an additional £3,000 sterling to the victims. Colonists in Montreal, a new addition to the British Empire after the defeat of France in the Seven Years' War, received over £1,000 when a major fire struck in 1765. Donations from all corners of the Atlantic world flowed into Bridgetown after a 1766 fire, including £3,000 sterling in specie from just forty-eight British donors and £714 sterling from South Carolina officials who remembered the generosity of their Barbadian counterparts after the 1740 Charleston disaster. The South Carolina merchant Gabriel Manigault personally donated £135. Funds also arrived from a Masonic lodge in the new British colony of Grenada and from neighboring parishes in Barbados. Leeward Islands colonists devastated by the 1772 hurricane received humanitarian assistance from fellow colonists in the West Indies and from North America. When a fire burned Basseterre, St. Kitts, in 1776, London merchants and absentee planters raised funds for victims.[12]

Some historians have portrayed the aid to Boston in 1760 as a unique event, but clearly it was part of a larger pattern of disaster relief and charitable giving that emerged during the second half of the eighteenth century. Indeed, transatlantic relief became so routine that after the 1780 hurricane members of the vestry of St. Michael's, Barbados, wrote to London officials suggesting that "a proper application for a Brief thro' the Churches in England, is not only usual on such occasions, but the most probable means to procure us sufficient relief in our great necessity."[13]

The campaigns to help victims of the two hurricanes that struck Jamaica, Barbados, Dominica, and St. Vincent in October 1780 represented the largest and most significant relief effort of the eighteenth century. Week after week throughout the spring of 1781, newspapers in England and Ireland carried lists of donors and the amount they pledged, ranging from one shilling to £1,000. The Society of West India Merchants and Planters in London raised at least £15,000. A special committee in Dublin headed by the lord mayor raised over £20,000, led by a £1,000 contribution from the merchant house of Latouche and Sons. A special benefit theater performance in early March raised an additional £48. Donations to a separate campaign to help rebuild churches in Barbados totaled £1,362 by 1782. Although Jamaican absentees wrote to island leaders in early February 1781 that private contributions were slow and "likely

to fall very short of their expectations," such pessimism proved misplaced; the donations totaled at least £37,000 sterling, most of which aided victims in Jamaica and Barbados.[14]

Not all donations were monetary: some individuals and groups gave yards of Irish linen or "sundry Manufactures." The islands even received a form of assistance from the rebellious North Americans. Writing from Paris, Benjamin Franklin ordered American ships to let pass any vessels from Ireland carrying cargoes of relief supplies to the islands. "Principles of common humanity," Franklin wrote, required such action.[15]

The size of donations and the geographic scope of donors distinguished these eighteenth-century aid campaigns, but so too did the form of appeal. Charity briefs preached in local parishes throughout England and the colonies continued to be important in disaster relief, but a new technique arose alongside it: private subscriptions. Subscriptions differed little from briefs in that both sought to publicize disasters and raise funds for victims, but whereas briefs were public instruments—they had to be approved by officials and were administered through local parishes—private individuals or groups organized subscription campaigns. The New England Merchants, the Committee for the Affairs of Canada, and the Society of West India Merchants and Planters, among other groups, coordinated private subscription campaigns for disaster victims in the second half of the eighteenth century. Meeting in coffeehouses and taverns, they publicized their causes in newspapers, periodicals, and broadsides rather than from the pulpit. In an effort to spur donations in 1780, for example, the West India Merchants and Planters placed advertisements in newspapers and financed publication of an eighty-page pamphlet containing accounts from the islands that detailed the devastation wrought by the storms. In place of church collections, subscription campaigns employed local bankers throughout Britain who opened "subscription books" to collect funds. Such charity drives became so common in the eighteenth century that one observer wryly noted, "There is scarcely a newspaper but records some meeting of men of fortune for the most salutary purposes."[16]

Subscription campaigns also emerged in the Greater Caribbean. After a 1769 fire in St. John's, the governor of Antigua reported to London, "I have promoted a subscription here, for the Relief of the unhappy Sufferers." Governor John Dalling's £2,000 donation headed the subscription organized in Spanish Town to assist victims in the western parishes of Jamaica after the 1780

hurricane. After the 1780 hurricane in Barbados, merchants in Bridgetown "formed an association, and appointed committees for the interment of the dead, and the distribution of provisions for the relief of their indigent fellow-sufferers."[17]

Private subscriptions saved time because they did not require formal government approval and had the potential to reach a broader audience than just the churchgoing population. They also reflected a growing middle-class distrust of government-sponsored briefs, whose high administrative costs reduced the amount of money that reached victims. A campaign in 1713–14 on behalf of a Colchester Church, for example, raised £1,600, but over £546, roughly one-third of the total, was diverted to cover administrative costs. Other donors grew tired of scandals that plagued the brief system, particularly the practice of farming briefs, in which middlemen coordinated relief efforts in return for a percentage of the money. By the middle of the eighteenth century, even many churchgoers turned away from briefs and embraced the "new world of committees and causes."[18]

Private subscriptions sometimes faced charges of corruption, but organizers went to some lengths to proclaim their integrity. The planters and merchants raising money for victims of the 1776 fire in St. Christopher stated in an advertisement in the *Public Advertiser* that "none but real Objects of Distress are entitled to any Proportion of the Subscription Money." They also responded quickly to any accusations of wrongdoing. When rumors circulated in England that wealthy sugar planters were receiving charity from the 1780 hurricane relief fund, the West India Merchants and Planters immediately published an announcement assuring potential donors that such charges were "groundless" and that although "the Sufferers are of several Classes, yet those intended to be assisted, are only those of the lower and most distressed."[19]

Donors occasionally bypassed the committees altogether and sent aid themselves. Rather than contributing to the Dublin fund, residents of Cork sent their £1,000 in specie directly to Barbados in 1780. Others sometimes specified the intended use of the contributions they gave to an organizing committee. Residents of Portsmouth Town and Portsmouth Common donated £271 to the West India relief effort in 1780 but specified that Barbados was to receive £171 and Jamaica £100. A donation from a company of grocers did likewise. One man, Mr. B, donated £25 sterling "for Jamaica only." Such specific instructions

regarding the use or distribution of funds were not common, however. Most donors had faith in the organizers to determine how best to use the money.[20]

Organizers of these relief campaigns used the funds to buy food, building supplies, and other necessities for victims or sent the money directly to the colonies in specie for distribution among the sufferers. Much of the relief sent from Ireland after the 1780 hurricanes arrived in Jamaica and Barbados in the form of food and supplies. The Dublin committee shipped caps, linens, and men's and women's shoes. Funds raised in South Carolina for victims of the 1766 Bridgetown fire, by contrast, were sent to the island directly as monetary relief. Money raised by the "New England Merchants" for Boston fire victims in 1760 likewise arrived in specie, as did most of the relief raised in other colonies after the blaze.[21]

Once the supplies or funds were received in the colonies, a committee of local officials, often parish vestrymen, oversaw their distribution. Most committees ordered an inquiry of some form to determine the losses suffered by individual colonists and to serve as a basis for allocating supplies and money. Officials in Boston gathered evidence of losses in the great fire of 1760 and then divided victims into groups of rich, middling, and poor. They distributed the funds (which totaled over £13,000 sterling) between the latter two groups in proportion to their losses. Barbados officials applied relief funds donated by South Carolina in 1766 specifically to "the most indigent and Necessitous Persons of those who suffer'd by the said Fires." The Barbados Council divided the £1,000 raised by residents of Cork with some attention to the relative population and losses of each parish. Council officials also divided the food and supplies shipped from Ireland among the parishes, leaving local vestrymen to determine the specific amount individuals would receive in proportion to their losses.[22]

Given the pace of travel in the eighteenth century, it took weeks for news of a calamity in the Greater Caribbean to reach Britain or the northern colonies. Often months, and sometimes years, passed before victims received supplies or money. Private donations raised for victims of the 1780 hurricanes, including significant amounts of money, were still arriving in Jamaica and Barbados four years after the disaster. Nevertheless, colonists eagerly embraced the cargoes of supplies and specie whenever they arrived. When relief supplies from Ireland arrived in Barbados in 1781, months after the hurricane, residents of St. George's parish wrote to island officials urging them not to delay in distributing the food, clothing, and building materials. "Our poor are numerous,

needy, and distressed," they pleaded. Parish officials even offered to send wagons to Bridgetown to speed things up. Regardless of when it arrived, food was particularly welcomed after hurricanes in the islands, which had grown increasingly dependent on imported supplies. Even colonists in South Carolina, whose main export was a food crop, sometimes found themselves in need of outside provisions after major tempests. The Charleston merchant John Guerard noted a "scarcity & outcry for Corne" in mid-February 1753, five months after twin hurricanes battered South Carolina.[23]

Colonists also welcomed the infusion of hard currency into economies chronically short of specie. It is difficult to trace exactly what happened to the disaster relief funds once they were distributed in the colonies, but the money certainly gave a boost to the local economy. Much of the relief money sent to Boston in 1760, for example, probably helped pay for rebuilding, stimulating the local building trades. A similar situation likely existed after calamities in the Greater Caribbean. One visitor in the 1780s noted that in Jamaica, "carpenters, plumbers, and bricklayers, generally make fortunes, as the hurricanes so frequently blow down the mills and other buildings." White craftsmen profited from the relief funds spent on reconstruction, but some slaves—those who hired themselves out—may have benefited as well. In either case, individual victims welcomed the funds as they struggled to rebuild their lives, and the colonial economy more broadly benefited from the demand for services and from the circulation of specie.[24]

The success of these disaster relief efforts, and specifically those raising money in Britain, highlights an important shift in attitudes among Britons about their fellow subjects in the colonies. Throughout the seventeenth century and into the eighteenth, few residents of Great Britain concerned themselves with the colonies and colonists. The Barbadian planter Edward Littleton complained in 1698 that people in England did not appreciate the important role colonists had played in enlarging the British Empire and increasing British prosperity. As late as the 1730s some colonists worried that "the Circumstances of the Sugar Colonies and Trade have not been so well understood in England as their Importance deserves." Certainly whatever thoughts people had about colonists in the Greater Caribbean did not translate into any significant financial assistance to disaster victims. By the second half of the eighteenth century, however, colonial affairs occupied an increasingly prominent place in the minds of many Britons. In a review of *A General Survey of the British Empire*

*in America,* published in the *London Magazine* in June 1771, the reviewer noted that he had "a favorable impression of every work which appears calculated to render [the colonies] better known to the mother country" because of their "importance . . . to the British Empire." One manifestation of this shift in attitudes was many Britons' increased willingness to donate money and supplies to disaster victims in the colonies.[25]

Why individuals donated to charitable causes has sparked a good deal of debate, both in the eighteenth century and among later historians. Religious beliefs, self-interest, egotism, and a desire for control, among other things, all motivated individual donors to humanitarian causes at various times. Beyond these broad considerations, several more specific factors contributed to a new perception of the colonists among Britons during the second half of the eighteenth century, and a new willingness to come to their aid. An increase in the number of newspapers and periodicals, increased economic connections between Britain and the colonies, the development of a humanitarian sensibility, and the emergence of a sense of British nationalism that viewed colonists as fellow subjects together created a context in which Britons both knew more about the devastation wrought by hurricanes and other disasters and felt moved to alleviate the suffering. These issues influenced the rise of relief campaigns in Britain, but they also help explain the increase in disaster relief between the colonies themselves during the second half of the eighteenth century.[26]

First, Britons expressed greater concern about the suffering of disaster victims in part simply because they knew more about it. The explosion of print culture at the end of the seventeenth century meant that news from the colonies, including accounts of disasters, circulated more quickly and more broadly. By the 1760s London alone had four daily papers and five semiweekly papers. *The Gentleman's Magazine,* which began publication in 1731, had a circulation of more than ten thousand within eight years. These publications offered readers a steady flow of information and news about events in the colonies. Most had sections on "American affairs" and frequently printed news of major calamities—fires, earthquakes, hurricanes—in the colonies. One observer noted that by the later decades of the seventeenth century hurricanes had become common "subjects of our Gazets; and scarce a year passes but we have Accounts from the American Plantations, of the Damages they have sustain'd by Hurricanes." Indeed, by the middle of the eighteenth century the circulation of information, including accounts of hurricanes, became so commonplace that

one colonial governor wrote after the 1751 hurricane in the Leeward Islands, "I forbear to mention any particular Circumstances of its dreadful Effects, as I make no doubt but the London newspapers will be soon, if not already, filled with Em." The number of newspapers and periodicals published in the mainland and island colonies also grew, particularly after the 1730s, and colonial papers routinely covered disasters that struck other colonies. The production and consumption of these materials, both in England and in the colonies, contributed to the creation of an "imagined community" of Britons in which residents on both sides of the Atlantic viewed one another as part of a larger entity with shared social, economic, and political interests.[27]

One major reason Britons wanted more information about the colonies was their growing economic importance to Britain during the eighteenth century. A letter from St. Christopher to an English merchant in the 1690s cited "the interest which you have in the Trade of this Island" as the reason for immediately sending news of an earthquake. Such "interests" increased steadily over the eighteenth century. The annual average value of exports from the West Indies to England rose more than fourfold, from £785,000 in 1700–1701 to over £3,000,000 in 1772–73. Sugar exports grew from 25,000 tons in 1710 to over 97,000 tons in 1775. Per capita consumption of sugar in Britain jumped from four pounds to eleven pounds per head in the same period. Imports from the mainland colonies, and especially from the southern plantation colonies, exhibited similar growth. Conversely, as the colonial population expanded steadily, from a little over 114,000 in the 1650s to well over 1.5 million by the middle of the eighteenth century to 2.7 million on the eve of the American Revolution, so too did the colonies' role as a market for British exports. The average annual value of goods exported from England to the mainland colonies jumped from £256,000 in 1700–1701 to £2,460,000 just before the Revolution. West Indian imports rose in value from £205,000 to £1,168,000 during the same period.[28]

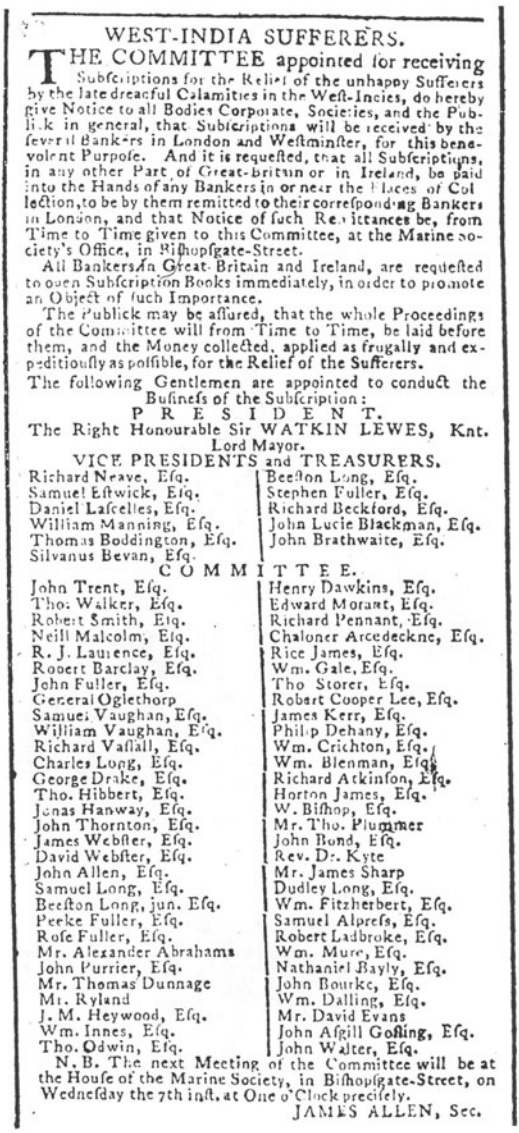
At the same time that colonial and metropolitan port cities shipped more and more goods across the Atlantic, improved inland roads and bridges in England and the colonies allowed those goods to penetrate deeper into the countryside. The colonial products sent to England and the metropolitan products sent back to the colonies linked merchants, planters, and consumers on both sides of the Atlantic into an "empire of goods."[29]

Economic integration involved more than the physical goods traded back and forth. The tremendous wealth generated by sugar allowed some West

Indian planters to retire to England while maintaining their colonial properties. Fewer South Carolina planters returned to England permanently, but more and more of them spent a significant amount of time in England or had their children educated there. Indeed, absenteeism became a distinguishing feature of the Greater Caribbean, especially compared with other regions in British America. Conversely, many British merchants, having grown wealthy through their involvement in colonial trade, sought to diversify their holdings by purchasing plantations in the Greater Caribbean. Others came into possession of estates because of mortgage foreclosures, sometimes as a result of hurricanes. The result was a collection of powerful and important individuals in Britain with direct economic ties to plantations in America, and often to one another.[30]

Economic links fostered the extension of disaster relief in a number of ways. Absentee planters and merchants who traded with the colonies led various disaster relief campaigns in the second half of the eighteenth century. Influential members of the Society of West India Merchants and Planters, which coordinated the 1780 subscription campaign in London for Jamaica and Barbados, included Samuel Estwick, an absentee planter and an agent for Barbados in London; Stephen Fuller, his Jamaican counterpart and a prominent merchant trading to that island; Rose Fuller, Stephen's brother and an absentee planter from Jamaica; and William FitzHerbert, who owned Turners Hall plantation in Barbados as well as property in Jamaica. Many of the most prominent names in West Indian affairs, including Beckford, Long, and Brathwaite, filled the society's newspaper advertisement announcing the 1780 relief campaign. Besides organizing the subscription, these men donated significant sums to aid victims. Stephen Fuller gave £100, as did Beeston Long, another member of the committee. A member of the Lascelles merchant house, one of the biggest and most important West India trading houses, also gave £100.[31] (See fig. 3.)

Not surprisingly given their membership, in calling for donations these organizations and committees stressed the colonies' importance to the economic well-being of Britain. Charitable contributions to distressed colonies, they suggested, would spur economic growth in Britain and by implication aid the donors as much as the receivers. The Barbados planters and merchants in London argued that financial assistance to hurricane victims in Barbados would enable the island to "again flourish, and, in proportion to its own wealth and affluence, bring wealth and affluence to the parent state." The lord



WEST-INDIA SUFFERERS.

THE COMMITTEE appointed for receiving Subſcriptions for the Relief of the unhappy Sufferers by the late dreadful Calamities in the Weſt-Indies, do hereby give Notice to all Bodies Corporate, Societies, and the Publick in general, that Subſcriptions will be received by the ſeveral Bankers in London and Weſtminſter, for this benevolent Purpoſe. And it is requeſted, that all Subſcriptions, in any other Part of Great-britain or in Ireland, be paid into the Hands of any Bankers in or near the Places of Collection, to be by them remitted to their correſponding Bankers in London, and that Notice of ſuch Remittances be, from Time to Time given to this Committee, at the Marine Society's Office, in Biſhopſgate-Street.

All Bankers in Great-Britain and Ireland, are requeſted to open Subſcription Books immediately, in order to promote an Object of ſuch Importance.

The Publick may be aſſured, that the whole Proceedings of the Committee will from Time to Time, be laid before them, and the Money collected, applied as frugally and expeditiouſly as poſſible, for the Relief of the Sufferers.

The following Gentlemen are appointed to conduct the Buſineſs of the Subſcription:

PRESIDENT.

The Right Honourable Sir WATKIN LEWES, Knt. Lord Mayor.

VICE PRESIDENTS and TREASURERS.

| | |
|---|---|
| Richard Neave, Eſq. | Beeſton Long, Eſq. |
| Samuel Eſtwick, Eſq. | Stephen Fuller, Eſq. |
| Daniel Laſcelles, Eſq. | Richard Beckford, Eſq. |
| William Manning, Eſq. | John Lucie Blackman, Eſq. |
| Thomas Boddington, Eſq. | John Brathwaite, Eſq. |
| Silvanus Bevan, Eſq. | |

COMMITTEE.

| | |
|---|---|
| John Trent, Eſq. | Henry Dawkins, Eſq. |
| Tho: Walker, Eſq. | Edward Morant, Eſq. |
| Robert Smith, Eſq. | Richard Pennant, Eſq. |
| Neill Malcolm, Eſq. | Chaloner Arcedeckne, Eſq. |
| R. J. Laurence, Eſq. | Rice James, Eſq. |
| Robert Barclay, Eſq. | Wm. Gale, Eſq. |
| John Fuller, Eſq. | Tho Storer, Eſq. |
| General Oglethorp | Robert Cooper Lee, Eſq. |
| Samuel Vaughan, Eſq. | James Kerr, Eſq. |
| William Vaughan, Eſq. | Philip Dehany, Eſq. |
| Richard Vaſſall, Eſq. | Wm. Crichton, Eſq. |
| Charles Long, Eſq. | Wm. Blenman, Eſq. |
| George Drake, Eſq. | Richard Atkinſon, Eſq. |
| Tho. Hibbert, Eſq. | Horton James, Eſq. |
| Jonas Hanway, Eſq. | W. Biſhop, Eſq. |
| John Thornton, Eſq. | Mr. Tho. Plummer |
| James Webſter, Eſq. | John Bond, Eſq. |
| David Webſter, Eſq. | Rev. Dr. Kyte |
| John Allen, Eſq. | Mr. James Sharp |
| Samuel Long, Eſq. | Dudley Long, Eſq. |
| Beeſton Long, jun. Eſq. | Wm. Fitzherbert, Eſq. |
| Peeke Fuller, Eſq. | Samuel Alpreſs, Eſq. |
| Roſe Fuller, Eſq. | Robert Ladbroke, Eſq. |
| Mr. Alexander Abrahams | Wm. Mure, Eſq. |
| John Purrier, Eſq. | Nathaniel Bayly, Eſq. |
| Mr. Thomas Dunnage | John Bourke, Eſq. |
| Mr. Ryland | Wm. Dalling, Eſq. |
| J. M. Heywood, Eſq. | Mr. David Evans |
| Wm. Innes, Eſq. | John Aſgill Goſling, Eſq. |
| Tho. Odwin, Eſq. | John Walter, Eſq. |

N. B. The next Meeting of the Committee will be at the Houſe of the Marine Society, in Biſhopſgate-Street, on Wedneſday the 7th inſt. at One o'Clock preciſely.

JAMES ALLEN, Sec.

*Figure 3.* Advertisement announcing the Society of West India Merchants and Planters' campaign to raise money for victims of the 1780 hurricanes in Jamaica and Barbados. From *St. James Chronicle,* February 1, 1781.

mayor and City Council of London noted the "magnitude" of the losses in Barbados from the 1780 hurricane and cited the island's "great importance to the commercial interests of this kingdom" as key reasons for aiding colonists.[32]

The organizers of the 1765 aid campaign for victims of the Montreal fire were even more explicit in their rationale encouraging donations. The "real and substantial riches" of the country depended on the skill and industry of its citizens, wrote Jonas Hanway in a pamphlet announcing the subscription. "What can we do more effectual to maintain [prosperity] thus, than to preserve every individual who constitutes a part of the public, whose misfortunes are owing to accidents beyond his power to prevent?" Moreover, and more important, Hanway argued, it should not "be deemed any diminution of the most substantial virtue, on our part, . . . that we hope, both in our national and private capacity, to reap the advantages of commerce with these very persons whose misfortunes now claim a portion of our attention." Hanway linked British prosperity at home to prosperity in the colonies, arguing that Britons as well as colonists would benefit from a speedy and effective recovery from the fire.[33]

One newspaper writer laid out the complex economic connections between the colonies and Britain in even greater detail after the 1780 hurricanes in Jamaica and Barbados. When he had described the economic damage that a "typical" five-hundred-acre sugar plantation on Barbados suffered from a major hurricane, the author turned to the effect such losses had on people in Great Britain. He estimated that a moderate plantation would have produced two hundred hogsheads of sugar, each valued at £15, along with two hundred hogsheads of rum, worth £5 each. The loss in tax revenue, he wrote, including the 4 percent paid in the islands and a £4 duty on each hogshead, represented a loss "to his Majesty and the Publick" of roughly £1,000. Moreover, the author argued, such a figure did not include the "Loss of Freight to the Ship-Owner, Commission to the Merchant, Employment for the Manufacturer, the Consumption of British Manufactures being considerable in a Sugar Plantation." It was an "undoubted Truth," he continued, "that the Publick, in various Ways, receives much greater Profits from the Produce of a Sugar Plantation than its Owner does." He concluded by stating that while some might think "some interested West-Indian is the Penner hereof; there is no Briton who is not interested herein, and the Writer glories in being a Briton, but more particularly in being *a Citizen of the World.*" Whatever the merits of the author's economic analysis, his argument recognized the importance of the colonies, and the empire generally, to the economic well-being of Britons at home.[34]

Such awareness extended beyond the merchants, traders, and absentee planters who coordinated relief campaigns and donated the largest sums. Thousands of ordinary men and women also donated to various relief efforts. "K. B." contributed, for example, 1s. 1d. to the 1780 subscription for hurricane victims in Jamaica and Barbados. The men and women of the parish of St. Mary Woolnoth gave £23 17s. on March 10, and the Catch Club of Hertford donated £10 10s. On July 27, a donation of £1 13s. arrived from the parish of Mothley in Yorkshire, along with a £21 from the Distillers Company. "Small sums from Sundry persons" totaling £1 12s. were collected in Dublin, and similar donations came from a number of other parishes across Britain.[35]

Although these ordinary men and women had fewer direct connections to the colonies than merchants or absentee planters, many found themselves part of the Atlantic marketplace by the middle of the eighteenth century, either as small traders, as investors, as producers of goods destined for colonial markets, or simply as consumers of the products grown in the colonies. In Bristol, for example, residents involved with colonial trade in the eighteenth century "either as direct investors in cargoes or as lenders to merchants or shipowners included haberdashers, grocers, hoopers, sugar bakers, printers, gunsmiths, apothecaries, tobacconists, yeomen, and widows." A similar diversity characterized investors in other port cities such as Dartmouth, Bridgewater, Weymouth, and Plymouth. Many others depended on colonial markets as outlets for their goods. English craftsmen, Edward Long noted, produced the luxury goods that furnished the plantation homes of the West Indies.[36]

Such connections made the affairs of distant colonists more central to the lives of many in Britain and perhaps pushed them to contribute. A similar awareness likely developed among the mainland North American farmers, tradesmen, and merchants whose livelihoods or consumption habits linked them to the markets of the Greater Caribbean. For others in Britain and the colonies, simply consuming the various products produced in the Greater Caribbean—sugar, rum, and rice—may have increased awareness of the colonies, instilling a sense of responsibility for the welfare of distant colonists and pushing them to donate in the 1750s or 1760s when they would not have done so a few decades earlier. Disaster relief efforts thus reflected the economic integration of the colonies and Britain and the spatially expanded economic and social consciousness that accompanied it.[37]

Disaster relief also reflected the emergence of a culture of "sensibility" among elite and middle-class men and women during the middle of the eighteenth

century. The "age of benevolence," as historians have labeled the period, witnessed a flowering of reform movements concerned with everything from the treatment of animals to care for the sick and mentally ill to the abolition of slavery. These reform movements operated from an intellectual foundation that portrayed human beings as inherently compassionate and concerned with the suffering of others. The modern articulation of this idea developed in the mid-seventeenth century in the works of the Cambridge Platonists and, later, Latitudinarian divines. Responding to both Hobbesian and Calvinist depictions of the depravity of human nature, these writers instead suggested that humans had an innate sense of sympathy for their fellow beings. One cannot but feel compassion and seek to help, wrote the seventeenth-century Anglican minister Isaac Barrow, "when our bowels are touched with a sensible pain at the view of any calamitous object: when our fancies are disturbed at the report of my disaster befalling a man, when the sight of a tragedy wringeth compassion and tears from us." Such ideas gained currency during the eighteenth century in the writings of the third Earl of Shaftesbury, and Adam Smith, among others. In the minds of many, concern for the less fortunate and action on their behalf became a defining trait of what it meant to be human. Richard Fiddes stated that God "implanted in our very Frame and Make a compassionate Sense of the Sufferings and Misfortunes of other People, which disposes us to contribute to their relief." Thomas Jefferson likewise believed that "Nature hath implanted in our breasts a love of others, a sense of duty to them, a moral instinct, in short, which prompts us irresistibly to feel and to succor their distresses."[38]

Disaster relief formed one part of this larger movement in which middle-class men and women took it on themselves to help the less fortunate and to ease others' pain and suffering. Organizers of relief campaigns in the second half of the eighteenth century emphasized the physical and emotional losses caused by disasters and called on donors' humanitarian sensibility. A fire in 1766 reduced colonists in Barbados "to the severest Distress," proclaimed organizers of the fund-raising drive. The fire damage, which totaled £300,000 sterling, "dreadfully impaired" the fortunes of the wealthy and destroyed "the little All of many, who . . . by honest Diligence and Industry sought a decent Subsistence." The governor of the Leeward Islands wrote after the 1772 hurricane, "The melancholy Effects which it hath left upon the face of the Country, are such as might provoke the keenest Sensibility, from the most obdurate Heart." The Society of West India Merchants and Planters stated in one of their newspaper appeals that the 1780 hurricane victims were "justly entitled to

commiseration, and every relief which the emotions of sensibility and affection can administer on such occasions."[39]

To convey a sense of the tragedy and to stir emotions and feelings of sympathy and compassion, writers and speakers often composed graphic descriptions of the pain and suffering caused by disasters in the Greater Caribbean. The dramatic devastation hurricanes wrought lent itself particularly well to such depictions. Many charity sermons preached in England after the 1780 storms began with melodramatic accounts designed to create an atmosphere of gloom and despair. "It was evening, and the rising moon scarcely gave a gleam through the atmosphere, ominously dark with vapours," wrote Isaac Hunt in one sermon. "The winds are heard afar off, gathering strength in their career." Slowly the storm began to rise, and Hunt's vivid language rose with it. "And now the terrors of the storm rage, and press upon the heels of the trembling inhabitants. . . . The storm increases. And now its fury is at its height—the desolation of all nature seems at hand. Hark! The thunders roll! The very earth trembles to its center. . . . Hark! another clap, gracious God, how tremendous that awful opening in the skies."[40]

Writers and speakers painted the scenes of devastation and horror that followed the calamities in even more vivid detail (while simultaneously denying their ability to truly capture the destruction and chaos, which they themselves, significantly, had not seen). "It is pitchy darkness all. Whence that dismal scream! See! The dreadful lightning pierces through the gloom and shews you the extremity of human misery. A wife dashed upon the earth, and struggling with feeble grasp to keep her husband from the ruffian blast; merciless it hurries him away—her children too," Hunt exclaimed. "What language can paint such agonizing Calamities," asked Robert Markham in another sermon after the 1780 hurricanes, "as either hurried whole families down quick into the Deep, or else, entailed Misery upon surviving Relations; Upon Fathers and Mothers, lamenting their lost Children; upon Husbands torn from Wives; Wives from their Husbands; upon Brethren, Sisters, and the nearest and dearest of Relations, having every Link that chained together their tenderest Affections, rent asunder by unforeseen, and unavoidable Separation." Another minister acknowledged that it was beyond his powers to adequately convey the tragedy caused by the storms. "I might, indeed, raise a faint Image in your Minds, by telling you of a great Number of virtuous Citizens in the Enjoyment, one Day, of every social and domestic Satisfaction, on the next, deprived of their Friendships, their Wealth, their Food, their Raiment, their all."[41]

The emphasis given to such descriptions resulted from the eighteenth-century belief that visualizing suffering was central to feeling benevolence and sympathy. One Latitudinarian minister wrote in 1700, "When we *see* a miserable Object, Nature it self moves our Bowels to compassion." Adam Smith took this idea one step further and stressed the need for people to see in their mind's eye the suffering of others. "As we have no immediate experience of what other men feel, we can form no idea of the manner in which they are affected but by conceiving what we ourselves should feel in the like situation," Smith wrote in his 1759 *Theory of Moral Sentiments.* "By the imagination we place ourselves in his situation, we conceive ourselves enduring all the same torments . . . and thence form some idea of his sensations, and even feel something which, though weaker in degree, is not altogether unlike them." Vivid descriptions of the storms and the chaos and pain they caused allowed listeners to imagine the disasters and the horrifying conditions survivors faced. Benevolent sentiments emerged from sight (either real or imaginary), and people who witnessed the distress or could visualize it, it was thought, would naturally be moved to alleviate it. The centrality of these ideas in sentimental plays, poems, and especially novels, which in the mid-eighteenth century sought to create an emotional response in readers and audiences through vivid descriptions of danger, furthered their dissemination and popular acceptance.[42]

Residents of Britain or other colonies obviously could not witness the destruction in the Greater Caribbean, which made creating images of the disaster and devastation that much more important to relief appeals. One minister, echoing Smith, called on his listeners to "put yourself . . . only for a moment . . . into the deplorable Situation of such pitiable Sufferers" of the 1780 hurricanes and to ask "what, in such uncommon distress, you yourselves would wish others to do for you, go, and do likewise." Another minister impressed on his congregation, "If you possess that Wisdom, which I have had the Honor of describing, it will unfold your heart to all the human Race: it will transport you to the Scene of Sorrow and Distress: it will lead you with the distracted widow in her Quest of her mangled Husband. You will be deeply interested in all you see and hear, every groan will pierce your Heart; and render your feelings 'tremblingly alive' to all their Wants." Descriptions of suffering by women and children—scenes of families being literally torn apart and women being separated from their husbands and children—appeared especially powerful, touching on the rising ideology of domesticity and female virtue.[43]

Relief organizers hoped that graphic accounts of disasters would make real the sufferings of people across the Atlantic. Ministers and writers sought to transport their audiences to the scene of the disaster and to create mental images of terror and trauma that would inspire donations. The response to these appeals suggests that organizers knew their audience. "Human Nature struggling under the Weight of such accumulated Distresses as those occasioned by the late dreadful Hurricane, cannot fail to excite the Compassion and secure the Benevolence of that Part of Mankind whose Feelings are alive, and whose Ears are not deaf to the Calamities of their Fellow Creatures," wrote one man who organized donations in Portsmouth for the 1780 relief fund. He hoped that "every Town in the Kingdom will exert the Hand of Benevolence in the present Case, where the Calamity is of such Magnitude and Importance, and that the Charity will be as diffusive and extensive here as the Misfortunes of the unhappy Sufferers have been there." Another anonymous contributor to that same effort described himself as "a Gentleman who has a Regard for his Fellow-Creatures in whatever Part of the World."[44]

Finally, alongside humanitarian sensibility and economic interests, an emerging nationalist pride in Britain's colonial empire, again fueled in part by increased knowledge of colonial affairs, contributed to the expansion of disaster relief in the second half of the eighteenth century. Many residents of Britain increasingly viewed colonists as fellow subjects united by shared history, values, and religion as well as by allegiance to a common king. As the London printer William Strahan declared in 1766, colonists were British subjects, "only living in a different Country." This increased awareness and appreciation of the colonies and of empire had its roots in the growing economic connections between the colonies and Britain, but the midcentury wars for empire—the War of Jenkins' Ear (1739–41), the War of Austrian Succession (1744–48), and the Seven Years' War (1756–63)—also played a central role in bringing issues of empire to the forefront of British political and social conversations. Victories over the Spanish and the French were celebrated throughout the British Atlantic and were considered victories by "Britons." Defeat of longtime Catholic and absolutist enemies during these wars strengthened an evolving British identity based on Protestantism, constitutional monarchy, and liberty.[45]

An enlarged sense of British nationalism—one that included the colonists—furthered Britons' willingness to provide disaster relief to the far-off colonies. Indeed, many writers emphasized that charity and benevolence were central

elements of what it meant to be British. The pamphlet announcing a subscription for English victims of the 1765 Montreal fire stated, "It is the glory of British subjects to promote Universal Happiness and to succor the distressed in every form." Regardless of physical distance, Hanway argued, Britons at home had a patriotic duty to come to the aid of British colonists abroad: "The consideration of distance ought to make no difference in the minds of a people whose Empire is extended over the whole earth, and who are, upon proper testimony, as capable of judging of such an event as if it were within a few miles." Hanway was somewhat more ambivalent about aid to the newly acquired French Catholic subjects in Canada, but he nevertheless believed that "whether we consider them as fellow-subjects, or only as men under affliction, their cause must be referred to the tribunal of humanity and religion." Donations to disaster victims in this instance became a means to demonstrate British superiority to a newly conquered people. Although Britons may "fall short of the French in external civility," he concluded, "it is confessed, that sincerity and humanity constitute our characteristic."[46]

A 1766 plea for aid to fire victims in Bridgetown illustrated similar sentiments. "It is an honor and Felicity of all who bear the Name Englishmen, in the present Age," the anonymous author of the broadside declared, "that they need only to be made acquainted with the more striking Calamities of Human Life, to alleviate them, according to respective Abilities, speedily and amply." The broadside appealed on behalf of "our Brethren and Friends . . . in Barbados." After the 1772 hurricane in the Leeward Islands, "Planters, Merchants, and others," in islands throughout the British West Indies contributed to their "poor Neighbors." The committee raising money for St. Vincent's and Dominica doubted whether the French, "however generous on some Occasions, will bestow any part of their Benevolence on the British Inhabitants of their new acquired Possessions." Britons, the committee pleaded, needed to come to the aid of their countrymen.[47]

Patriotism and nationalism appeared especially prominent in the appeals for money to aid hurricane-ravaged colonists in 1780 during the height of the revolutionary crisis. Unlike their rebellious cousins on the mainland, island colonists remained loyal during the troubles of the 1770s, and disaster relief became a means of illustrating the connections that bound fellow subjects in distant parts of the empire. One newspaper appeal talked about the need for Britons to "assist their Countrymen in a distant and unhappy part of the Globe." Robert Markham, in a charity sermon titled "Sympathy in Distress,"

mixed paternalism and nationalism in urging listeners to contribute. Throughout the sermon he pleaded for listeners to consider the suffering of your "helpless, perishing Fellow-Subjects." Colonists in far-off islands were "depending on this great Island" and were "relying chiefly upon this their Parent-State for Protection and Support." Another minister suggested that "the Lives of those who survived the wide Desolation, are sustained not so much by a scanty, fortuitous Meal, as by their confidence in the affectionate Benevolence of the British People. And will you desert them in the Moment of their Fate?" He continued, "By all the sacred Ties, therefore, of Religion, of Humanity, of Patriotism, let me beseech you to join in the noble Effort of rescuing so respectable a Part of our Fellow-Subjects from Misery and Death." He concluded by emphasizing the role of the colonies in defining Britain's power and glory, noting that "Jamaica is one of the brightest Jewels in the British Crown: nor is Barbados greatly inferior."[48]

Isaac Hunt, a native of Barbados living in London, stressed these themes in a charity sermon. "It is not a mere man; it is the citizen; it is the British West-Indian; it is the Christian, who now addresses you in behalf of your fellow creatures, your fellow subjects," Hunt proclaimed. The theme of his sermon was "love of country," and he reminded his listeners of the bonds they shared with those in the Caribbean—"their laws, their manners, their religion"—as well as the loyalty of Barbadians to England (and "our common King") during the ongoing revolutionary crisis. That loyalty came at a high price, Hunt suggested, as colonists faced famine and saw their commerce diminish, "a commerce in which this country [England] had so large a share of the profit." Employing the familiar equation of the family and the state, Hunt declared that Britons could not "turn our back upon those who are of our own household," and he exhorted listeners to give generously to their "loyal, loving, suffering brethren."[49]

Not all Britons welcomed the heightened importance given to the colonies during this period, and debate emerged in Britain about the relative merits of empire and about the colonists' place in it, particularly after the Seven Years' War, when Britons' overseas territories expanded greatly, as did the cost of administering them. Nevertheless, the increase in disaster relief suggests that affairs in the colonies had become of greater concern to many Britons. Whether from a paternalistic view of the colonists as dependents or from a belief in their equality as subjects of the same king, the response to relief campaigns illustrated Britons' perception that empire entailed some obligations to colonists

throughout the British Atlantic. Disaster relief both promoted and reflected an emerging Anglo-American identity, characterized by increased connections among the colonies and between the colonies and Great Britain.[50]

In March 1847 the Barbados House of Assembly allocated £2,000 for the "relief of their distressed fellow-subjects in Ireland" suffering from famine, "the first of the British colonies which assisted Ireland according to her means," noted the island's nineteenth-century historian, Robert Schomburgk. Private individuals in Barbados contributed hundreds of pounds more to the relief effort. This humanitarian aid, Schomburgk wrote a little more than a year after the event, reflected the deep and lingering gratitude of Barbadians for the similar aid residents of Ireland had contributed after the disastrous 1780 hurricane over half a century earlier. It also reflected the continuation of a network of disaster relief that had developed in the eighteenth-century British Atlantic world. Aid to victims of calamities was not new in the seventeenth and eighteenth centuries, but the scope and scale of relief efforts expanded dramatically during the second half of the eighteenth century as residents in disparate corners of the British Empire exhibited both greater concern for their fellow subjects in far-off colonies and greater willingness to contribute money and supplies. Colonists continued to rely on local fund-raising after many hurricanes, fires, and other calamities, but relief from Britain and from other colonies provided an increasingly significant source of aid. Although it could take weeks or months before supplies and funds arrived, humanitarian assistance aided recovery efforts, and colonists came to expect such assistance as they struggled to rebuild their homes, plantations, and societies.[51]

The campaign to aid victims of the 1780 hurricanes in Jamaica and Barbados represented the high point of eighteenth-century relief efforts. Drawing on images of distress and despair, emphasizing the wealth the sugar colonies generated, and stressing their loyalty during the American Revolution, organizers generated a tremendous response from individuals across Britain, who donated tens of thousands of pounds to aid their fellow subjects. The Society of West India Merchants and Planters, however, was not content to seek aid only from private individuals. Believing that the extraordinary damage and destruction caused by the storms combined with difficulties created by the war on the mainland warranted extraordinary action, they petitioned the British Parliament for public funds for hurricane victims in Jamaica and Barbados. Parliament took up the matter in early 1781.

CHAPTER SEVEN

# The Politics of Public Relief

The two hurricanes that struck Jamaica on October 3 and Barbados on October 10, 1780, rank among the worst disasters ever to hit the West Indies. The first, the Savanna-la-Mar hurricane, was the lesser of the two storms. It struck the western parishes of Jamaica, causing severe damage throughout Westmoreland and Hanover parishes and in parts of St. James's and St. Elizabeth's parishes. Hundreds of colonists and slaves died, and reports estimated property damage in Westmoreland parish alone at £950,000 currency (£678,571 sterling). Barbados suffered even greater losses one week later during the "Great Hurricane." Over 4,000 colonists died during the October 10 storm, including at least 2,000 slaves, and property losses topped £1,300,000 currency (over £1,000,000 sterling). After passing over Barbados, the storm moved north, devastating several other British, French, and Dutch colonies. Modern students of hurricanes believe that the October 10 hurricane was the deadliest in Caribbean history, claiming the lives of 20,000 to 22,000 colonists and slaves.[1]

In the immediate aftermath of the storms, colonists in Jamaica and Barbados and their allies in London drafted petitions to the king and Parliament pleading for aid, and after brief debate in January 1781, Parliament appropriated

£120,000 sterling for the two islands. Parliament's action was an extraordinary one. Disaster-stricken colonists frequently sought aid from the British government during the seventeenth and eighteenth centuries, but they had never received such a large allocation of public funds.[2] British leaders sometimes sent military supplies or building materials to the colonies in the wake of hurricanes to help strengthen defenses, and occasionally they made token grants of money to aid victims, but privately organized aid campaigns generated more money for the colonies during the eighteenth century. What circumstances pushed officials to allocate such a significant amount of public funds for colonists in Jamaica and Barbados? Certainly the powerful 1780 hurricanes caused tremendous misery and suffering, but so had other hurricanes. Why was 1780 different?

Speakers in Parliament stressed their desire to ease the suffering caused by the storms, but humanitarian concerns were not the only ones in the minds of many British officials. Political factors also influenced their decision. The 1780 hurricanes struck during the turmoil of the American Revolution. Island colonists remained loyal, but they complained about British policies affecting the islands, particularly the decision to stop trade with the mainland. Criticism grew louder after France entered the conflict in 1778 and the West Indies became a major theater of military operations. By 1780 many island colonists had grown frustrated with what they saw as inadequate attention to their needs and their defense. Many British officials saw disaster relief as a means of quieting growing criticism by West Indian planters and merchants of Britain's handling of the war effort and of reaffirming their concern for the welfare of colonists in the islands.

Politics also played an important role in the distribution of aid in the colonies. The parliamentary bounty became a source of conflict between political leaders and institutions in Barbados and between social and economic groups in Jamaica. Debates emerged in both colonies about how to use the money and which colonists should receive financial assistance. Historians often stress how far shared racial identity transcended economic distinctions within white West Indian society, but the debates about distribution of the parliamentary bounty suggest that significant economic divisions also characterized white society during the latter decades of the eighteenth century. The politics of disaster relief thus offers a window both on the relationship between the colonies and Britain and on relationships within white colonial society in the islands.

As they struggled to clear the debris and assess their losses, colonists in Jamaica and Barbados also drafted petitions to the king and Parliament seeking financial assistance. "We now throw ourselves at your Majesty's feet to implore your royal favour, and the nation's bounty," Barbados leaders wrote in late October, "to enable us to bear up under this dreadful shock to our finances, and assist us to repair the uncommon damage we have sustained." Without such aid, "your Majesty's most ancient and ever loyal colony of Barbados may be lost in every point of valuable consideration to the crown and parent state, and sink themselves into an abyss of indigence and despair." The Society of Jamaican Merchants and Planters in London added its voice to the calls for government assistance after reports of the storm arrived in England, writing in a petition to Parliament that the distress and destruction from the storm were "so great and extensive, that it is not in the power of any other than the honourable house of legislature [Parliament] to administer to their relief." The Barbados absentee planters and merchants declared that distressed colonists now looked to the "humanity, liberality, and policy of this honourable house, from whence they most humbly hope to receive speedy and effectual relief; such relief as will not only secure them from impending want, but by assisting them to erect a-new their buildings, and to procure other necessaries, enable them to cultivate again their estates."[3]

The petitions invoked many of the same themes of nationalism and sentimentality used in subscription campaigns and charity sermons. The Barbados merchants and planters described the suffering wrought by the storm as "shocking," writing that "above 20,000 whites, were left almost destitute of habitations, food, and raiment." They also noted Barbados's position as "the most ancient English colony in the West Indies" (snubbing St. Christopher) and stressed that the island was "ever actuated by the principles of loyalty to the crown, and love of the British constitution," stressing their patriotism during the current military conflict. The committee also incorporated economic arguments: "Should the unhappy sufferers be so fortunate as to receive from parliament such generous aid, they entertain a sanguine hope, and think it not ill-founded, that . . . the island will soon see its ancient fertility revive, again flourish, and in proportion to its own wealth and affluence, bring wealth and affluence to the parent state." Many of the same arguments appeared in Jamaican petitions.[4]

The House of Commons debated the question of relief funds in late January 1781. Speaking for the committee responding to the petitions, Lord North

noted that the hurricanes had reduced the colonists "to the lowest state of wretchedness, and well intitled them to some assistance from the parent state." However, he continued, "It was not expected that the benevolence of this country should extend to a total indemnification of their losses, nor were the propositions he should offer formed on that idea." Instead, North believed Parliament should offer some relief to the "poorer class of sufferers, who were least able to support or retrieve their losses, a gift merely of benevolence, and not of reparation." He declared that aid was not being given to the "more opulent inhabitants," who with greater resources should be responsible for their own recovery. They were entitled to sympathy, but North believed that "it would not be prudent to think of offering them any adequate relief." In consideration of the differing magnitude of the storms on the two islands, North advocated separate grants for Jamaica and Barbados. He argued that because the hurricanes had devastated the entire island of Barbados while only part of Jamaica suffered, the former had fewer internal resources to recover and thus should receive a larger grant. North stated that in Jamaica, other parishes not affected by the storm "could afford much relief to their indigent neighbors," but the widespread destruction in Barbados meant that "the miserable poor could expect no aid from internal charity." In addition, in Jamaica "few but opulent planters had suffered, and in the other island there were vast numbers of poor entirely ruined."[5]

Based on those ideas, North proposed granting £80,000 sterling to Barbados and £40,000 to Jamaica, and after some debate, the House passed the measure. North had suggested that the best means of distributing the bounty was to turn it over to the parish vestries in the colonies and let them, with the aid of the governors and council, determine the needs of individual victims. However, several other members suggested that the absentee planters and merchants in London should advise the Treasury on the distribution of the funds, and that amendment was approved unanimously.[6]

Parliament's action in 1781 represented an extraordinary response to the sufferings of disaster victims in the American colonies. British officials had in the past provided various kinds of assistance to colonists in the wake of major calamities. Some relief came in the form of military supplies. Colonists in Jamaica, for example, requested arms and ammunition from England after the 1722 hurricane and received forty thirty-two-pound guns, two hundred barrels of powder, five hundred swords, five hundred muskets, and five tons of musket shot. Officials likewise dispatched "a considerable number of troops"

to Jamaica after the 1692 earthquake to help protect the island. At other times, Britain offered some financial assistance to the colonies. After the 1772 hurricane, George III allowed the Leeward Islands to keep £2,500 owed to Britain in taxes to rebuild troop barracks and a hospital in Antigua. In 1766, George Grenville suggested that Parliament grant relief funds to Barbados after a major fire as a reward for the island's loyalty during the Stamp Act. That bill did not pass, but four years later British officials granted the island £5,000 to help rebuild the city's harbor area.[7]

In addition, colonists in the Greater Caribbean occasionally received some disaster relief from individual monarchs. Governor Daniel Parke wrote to the Council of Trade and Plantations in the aftermath of a devastating hurricane in the Leeward Islands in 1707 asking that "if Her Majesty had any money to spare, it would be very great charety in her to send us some provesion, and nayles for to rebuild our Houses." Queen Anne apparently did have some extra funds, and she informed Governor Parke in 1708, "We have been graciously pleased out of our Royal Bounty to order a supply of provisions of beef, pork, and flower, as also 50 barrels of nailes of several sorts, together with bolts and hinges" to be sent to the islands. Later monarchs continued the practice of direct royal assistance. George III gave £500 to sufferers of the 1765 Montreal fire, £1,000 to victims of a 1769 fire in St. Johns, Antigua, and a similar amount after a 1776 fire in Basseterre, the capital city of St. Christopher. Such funds came from the privy purse (or "Royal Bounty"), a fund granted by Parliament to cover the expenses of civil government but that monarchs also used for charitable purposes.[8]

These efforts provided some precedents for the 1781 resolution, but they were much smaller grants and were often intended to support public projects such as repairing military barracks or fortifications rather than offering direct financial assistance to victims of disasters. Parliament did grant £103,000 to help colonists in Nevis and St. Christopher whose property had been damaged in a 1706 French invasion. Moreover, on at least one occasion the British government appropriated disaster relief funds for diplomatic or political ends. After the great Lisbon earthquake in 1755, Parliament donated £100,000 to the Portuguese government. One newspaper article supporting calls for government aid in 1780 argued that "the Portuguese were united to us then but as Allies; the Inhabitants of the Island of Barbadoes are our own Fellow-Subjects." Despite these precedents, most disasters in the colonies elicited little if any government assistance. It appears that only on one occasion had the British government

allocated a significant sum for disaster victims in the American colonies. In 1741 Parliament appropriated £20,000 for victims of the Great Fire that had destroyed much of Charleston the previous year. More than three hundred structures burned, destroying an estimated £250,000 in property. In their petition to Parliament seeking aid, South Carolina officials described the tremendous human suffering in the city, noting that the fire left many families in "the severest Want and Misery," but they also emphasized the colony's weakened position with respect to nearby Spanish Florida. With the outbreak of war between Spain and England in 1739, and having recently experienced a smallpox epidemic, an outbreak of yellow fever, and a major slave uprising, "Your Petitioners [cannot] flatter themselves with any Hopes of supporting themselves under so many difficulties."[9]

Parliament agreed, and in response to the petition it allocated £20,000 in 1741. Military and political issues provided the primary motive for Parliament's actions. British officials stated that because "the Province of South Carolina has been greatly weakened by the late dreadful fire," government financial assistance was necessary "to secure and strengthen the said Province of South Carolina in this Time of War." Parliament granted the money for "resettling and re-establishing" the city. Restrictions placed on the distribution of the money underscored this objective: only "inhabitants" of Charleston qualified for aid, not British merchants or others who had property in the city.[10]

Parliament made no specific mention of "securing" the colonies in its January 1781 resolution providing aid to Jamaica and Barbados, although France's entry into the American Revolution made the Caribbean a theater of war and heightened issues of defense. The resolution spoke strictly of humanitarian aid. The language of the debates, however, masked key political concerns. As Lord North emphasized, concern by the "parent state" for its colonies, along with broader humanitarian motives, spurred Parliament to act. Such signs of concern were important in 1780. Most historians agree that there was little chance Jamaica and Barbados would join their cousins to the north in open revolt. Island colonists were simply too afraid of a slave rebellion, too reliant on the British army and navy for security, and too dependent on the protected home market for their sugars. Nevertheless, many colonists had grown increasingly disillusioned with British policies and policy makers during the revolutionary years. Political disputes between the locally elected assemblies and the London-appointed governors, the embargo on trade with the mainland, and complaints that Britain was not providing enough security to the

islands, especially after France entered the war, created tensions between the colonies and Britain.[11]

In Barbados, political conflict between the Assembly and the governor escalated steadily after the Stamp Act crisis. Things came to a peak in the mid-1770s, sparked by London's 1775 prohibition of trade with the rebellious mainland. Colonists argued that trade restrictions would cause severe shortages of provisions and economic ruin. Governor Edward Hay infuriated Assembly leaders by refusing to support a planters' petition to the king asking for relief from the trade embargo. Indeed, Hay reported to London in 1776 that the island had plenty of food. Even worse, he allowed a British naval squadron that arrived on the island to purchase as many provisions as they could find, creating even greater scarcity for residents. Despite Hay's claims that that it was "wicked to talk of famine, in the most plentiful island of all the West Indies," other observers, including General Sir William Howe, stated that "they have not . . . a single cask of salt provisions on the Island . . . [and] are in the greatest want of . . . provisions."[12]

Hay's indifference, and at times outright hostility, to planters' concerns generated bureaucratic retaliation from Barbados Assembly leaders. In particular, they refused to approve spending measures that Hay proposed to strengthen Barbados's fortifications and militia after France entered the war. The island's economy was too precarious to afford such measures, they claimed. Moreover, it was England's responsibility to defend her West Indian possessions because England had provoked the hostilities with the American colonies that now threatened them.[13]

Major General James Cunningham replaced Hay as governor in 1779, but the change in administration did little to thaw icy relations. Things started poorly when the Assembly greeted Cunningham with a message declaring that the "impoverished state of the island" meant that he would receive only £2,000 in addition to his pay from London, £1,000 less than his predecessor. They added an incentive clause, however, stating that if Cunningham managed to eliminate the much despised 4.5 percent duty—a tax dating back to the seventeenth century—they would grant him the additional £1,000. In a highly unusual move, the Council, which could not amend money bills, added a statement to its assent saying that the bill was an "indignity to government" and a "discredit to the island." Cunningham agreed. Annoyed and insulted, he responded by trying to impose a system of fees intended to augment his salary, a plan that garnered some support from the Council. But the attempt sparked

indignation among members of the Assembly, who believed only they had the right to impose taxes. When the petitions for hurricane relief arrived in London, the secretary of state, Lord George Germain, informed Cunningham that "the late behavior of the Assembly of Barbados has not been such as to give the Island a claim to the benevolence either of his Majesty or of Parliament."[14]

The situation was less contentious in Jamaica, but only slightly. The Assembly and governor had clashed bitterly during the 1760s over the rights and privileges of their respective branches. As constitutional tensions with the mainland colonies escalated during the 1770s, some in Jamaica openly sympathized with the North Americans. In December 1774 the Assembly, or more accurately a faction of it led by Kingston merchants, passed a resolution to the king supporting the claims of their northern counterparts for self-determination in legislative affairs. Once the war started, political tensions eased somewhat, although local leaders complained about the trade embargo and the high costs of defending the island. The embargo did not hit Jamaica as hard as Barbados, and the island did not face the severe shortages that plagued the Leeward Islands throughout the war. Nevertheless, prices for essential provisions tripled as the war dragged on, creating economic hardships for many.[15]

Discontent on the island grew markedly after 1778 when France, and later Spain, entered the war and the Caribbean colonies appeared more vulnerable to attack. Assembly leaders increasingly complained that Governor John Dalling and the English government were not taking adequate measures to supply and defend the island. Dalling's disastrous campaign to invade Spanish America in 1779–80, which claimed the lives of roughly 1,400 of the 1,800 soldiers assigned to the mission and jeopardized defense of the island, generated particular anger and led to an "irreconcilable breach with the Assembly in Jamaica." For his part, Dalling informed London officials that the "disaffected of this Country [are] sowing the seeds of sedition."[16]

Petitions from West Indian merchants and planters in London supported complaints from colonists in Jamaica and Barbados. The West India lobby, which increased both in organization and in effectiveness after the Seven Years' War, bombarded Parliament with requests for greater military support for the islands. Calls for aid and protection grew louder after the fall of Grenada and St. Vincent in 1779. Absentee Jamaicans wrote three separate petitions to Secretary of State Lord George Germain warning that "upon every Hours delay the safety & Property of themselves & their Brethren in Jamaica are left exposed to the Continuance of known & imminent danger." Although the gov-

ernment agreed to many of their demands, many colonists and lobbyists remained dissatisfied with the results and kept pressure on British officials. At one point some members of the West India lobby led by the absentee Jamaican planter Richard Pennant circulated a petition calling for Germain's impeachment because of what they viewed as inadequate attention to the security of the island. The petition was defeated, but it created splits within the West India lobby and reflected the growing dissatisfaction among some planters with the government's war policies.[17]

Parliament thus faced mounting criticism from London lobbyists and absentees and festering discontent on the islands when news of the hurricanes and pleas for assistance arrived in late 1780. Certainly humanitarian motives influenced Parliament's action, but disaster relief also made good political sense. It eased criticism from West India lobbyists that the government was not doing enough for the troubled Caribbean colonies, and it provided tangible support to colonists just when they were complaining about the lack of such aid from England. Secretary of State Germain forcefully voiced such sentiments in a letter to Cunningham: the relief funds provided "a striking proof of the warm affection borne by the People of England to their fellow subjects in the West Indies, and of the unbounded benevolence of Parliament, and ought to remove every Jealousy of their good Will and produce the most sincere Petition of Gratitude and Affection." He echoed such themes in another letter to Cunningham later that year: "The late munificence of Parliament must convince the people how ready this country is to attend to their Interest, and relieve their distresses." That British leaders allocated the money during an expensive war, Germain wrote to Dalling in Jamaica, provided further "testimony of the tender regard of government, for the faithful subjects of the King, in all parts of his majesty's dominions, and of the good will borne them by the people of this country, and ought to remove every ground of jealousy or distrust."[18]

Parliament thus used disaster relief to reaffirm the connection between Britain and the West Indian colonies and to deflect criticism that British officials were inattentive to the needs of colonists. It was not the first time British leaders had attempted to use disaster relief for political purposes: George Grenville's resolution to aid victims of the Bridgetown fire because of their loyalty during the Stamp Act crisis, although unsuccessful, suggests a keen awareness of the political possibilities of relief funds. It was also not the last. Officials again embraced disaster relief as a political tool several years after the

1780 hurricane. When bad weather and insects created near famine conditions in northern New England and southern Canada in 1789, British officials sent provisions to loyal settlers in Canada. The secretary of state wrote that he hoped the aid would have the "effect of impressing the minds of His Majesty's Subjects . . . with a just sense of His Majesty's paternal regard for the welfare of all his People." When Prince Edward visited the colony two years later, he canceled the debt owed for the supplies, announcing, "My father is not a merchant to deal in bread and ask payment for food granted for the relief of his loyal subjects." Such actions contrasted sharply with the failure of the new American governments across the border to come to the aid of their citizens, giving real meaning to the political boundary separating New England from Canada.[19]

The decision to allocate relief funds in January 1781 generated little debate among members of Parliament, but decisions about how best to use the money sparked intense controversy in both islands. In Barbados, discussion of the parliamentary bounty quickly became entangled with the ongoing disputes between the governor and the Assembly. Political differences first delayed distribution of the supplies and money and ultimately redirected much of it away from the island's poorest inhabitants and to Barbados's planter class. Jamaican officials distributed the aid more quickly, but the process that determined who received aid and how much they got unleashed a storm of criticism. Nonelite whites accused local officials of appropriating funds for sugar planters that Parliament had intended for the poorest and neediest victims of the storms.

Barbados received its first shipments of disaster relief in early 1781, not from Parliament but from private donations raised in Ireland. Residents of Cork bypassed the relief campaign organized by officials in Dublin and sent £1,000 sterling directly to hurricane victims. In May, several cargo ships from Dublin arrived in Bridgetown bringing barrels of herring, beans, and flour along with linens, caps, and shoes. The donors entrusted the aid to the governor, and he turned to the Council for assistance in deciding how best to distribute the money and provisions. They divided up the money among the eleven parishes, with each getting between £100 and £160 currency to distribute to victims. They also called for local leaders in each parish to conduct interviews to ascertain the relative losses and to determine who should receive provisions and supplies. It is unclear if this census ever took place, but by mid-May the Council began allocating the relief by parish. When more Irish cargo ships arrived in August, officials distributed the supplies the same way.[20]

Cunningham excluded Assembly leaders from the decision making regarding the Irish relief supplies, but he had to include them in any decision about the Parliamentary bounty. Parliament had granted control of the funds to the Treasury but suggested they solicit advice from the Barbados Planters and Merchants in London. The committee suggested, and the Treasury approved, a plan calling for the governor, Council, and Assembly to determine the best means of ascertaining individual losses and distributing the aid on the island. Cunningham thus had to deal with Assembly leaders, and the bounty quickly became caught up in the political struggles between the two branches.[21]

Cunningham wanted to use the funds to repair the island's fortifications. Frustrated by the Assembly's continued unwillingness to allocate money for defense, he saw the money as a major opportunity to further his plans and believed that Parliament's generosity would overwhelm any lingering opposition. The bounty, "provided for the relief of your Distress," he wrote to the Assembly in May 1781, "cannot fail to excite your Zeal, Ardor, and Exertion in repelling . . . his Majesties Enemies." But Assembly leaders refused to go along, and by November Cunningham informed Germain that "had Parliament the smallest Idea of the Assembly here acting so Undutiful a Part of Great Britain, they would have appropriated a Part of the Donation to the Repairing of the Fortifications and Public Buildings." He later suggested that the king should intervene to ensure that some funds were used for these purposes.[22]

Assembly leaders wanted to use the funds to aid the poorest residents who had suffered in the storm. The initial bill to emerge out of a joint committee of the Assembly and Council called for a general distribution of the money and provisions among all victims of the hurricane, but when the plan reached the Assembly for debate in early October 1781, opposition emerged, led by the Speaker of the Assembly, Sir John Gay Alleyne. Alleyne believed that the bill contradicted the wishes of Parliament; indeed, it was "so flagrant a Breach of Trust" that if passed it would result in a public "censure." British officials allocated funds to help "such of them as have been reduced to Distress and Necessity by the dreadfull Calamity." Instead of aiding those most in need, Alleyne charged that this plan assisted "all the Sufferers alike, altho' many of them, great as their Losses had been, remained with comfortable Fortunes, and some even possessed of ample ones." Alleyne and the Assembly drafted an amended bill at the end of October that called for a committee in each parish to investigate the losses of individual colonists, to ascertain their present situation and whether they had received any aid from the Irish donation, and then

to distribute the aid in accordance with Parliament's directive, namely to the poor and others facing real "distress and necessity."[23]

When the Assembly bill arrived for debate on November 27, the Council rejected it without even a second reading, believing it "fundamentally wrong in its principles." Among other issues, the Council charged that the Assembly was playing politics by not giving Cunningham enough power in the proceedings. Specifically they denounced the plan to remove Cunningham's veto power, "which the Lords of the Treasury intended he should have," and transferred effective control of the bounty to the Speaker and "his Party in the Assembly." In response, councilman Henry Frere introduced a new plan. Frere suggested using the bounty to pay off the island's debt, which stood at £34,000 in 1781 and was growing. He estimated the annual government operating costs during the war at roughly £10,000 and argued that these bills had to be paid "or we must submit to the ignominy of being a bankrupt Government, with numerous, clamorous impoverished creditors." Frere believed it was unlikely that residents would submit to new taxes to reduce the debt. Indeed, many were in no position to do so because of the tremendous losses occasioned by the hurricane. However, Frere continued, "by putting this Money into the Treasury everything may be made Easy. We may then pay off the Country's debt; we shall also have an additional year's expenses, and the burthen of taxation will, for a time, be done away." Regarding the intentions of the British government, Frere said it was obvious that Parliament had given the legislature "discretionary power" over the aid.[24]

The competing plans created a legislative stalemate, and in early December Cunningham informed Germain that no action had been taken regarding distribution of the bounty. Officials in the island decided to write to England for instructions on what to do with the money. In the meantime, a Council bill for distribution of supplies and provisions that had arrived in November failed because Cunningham, frustrated with Assembly leaders over fortifications, fees, and other issues, dismissed them for two months at the end of November 1781. The Assembly later passed a resolution condemning Cunningham's actions, stating that he had deliberately adjourned the Assembly even though relief supplies had recently arrived and, by "repeated adjournments" during January, had kept them from meeting, thereby "rendering ineffectual the Bounty and benevolent Intention of Parliament."[25]

These conflicts and debates had serious repercussions for many island residents. As officials awaited instructions from London on how to proceed, the

food and supplies sat in Bridgetown warehouses, costly roughly £200 currency a month for storage. When Cunningham finally recalled the Assembly in February, one member stressed the need for quick action, since the "Beans, Peas, Bread and Flour were perishing very fast and will be soon unfit for use" and "every day's delay is attended with a considerable Expense which of course will lessen the Bounty." Many colonists, moreover, remained in "great need" of the aid sitting in warehouses. The threat of famine had eased by the time the supplies from England arrived, but hardships remained, and although much of the debris from buildings and plantations had been cleared away, reconstruction remained incomplete as colonists awaited building supplies and money to pay for them.[26]

The Assembly finally started debate on various Council bills in late February 1782. Some members supported Frere's idea of putting the money into the Treasury. Samuel Husbands stated that he thought such a move seemed the "best, the most effectual, the most general, and the most impartial" use of the funds. Moreover, he believed the bounty was a gift from the British public to the public of Barbados and that the funds should be used for public ends. But sensing that there was "no hope left" of placing the funds in the Treasury, he argued for a distribution of the bounty among all sufferers. James Straker also supported a broad interpretation of who was to receive aid. He cited a speech in which Lord North stated that the financial aid would provide "some assistance to enable them [colonists] to begin those works which were necessary for the restoration of those rich and beautiful Plantations that the Hurricane had destroyed." This evidence, Straker argued, suggested that Parliament meant to help all classes of victims.[27]

Alleyne mounted a vigorous attack against these ideas. He repeated the language of the parliamentary resolution about aiding those in "distress and necessity" and cited an advertisement in a London paper stating that the private donations were going to the poor and most "distressed" in the colony, not to wealthy sugar planters. Alleyne argued that whatever the particular sentiments of one speech by an individual member of Parliament, the Assembly must be guided by the language of the act that passed the House of Commons. He heaped particular scorn on the idea of using the money to pay the public debt. While seeming to serve the public good, the plan to use the funds in lieu of raising taxes actually was a boon to large sugar planters. Because new taxes were levied according to slaveholdings, such a plan was even more unequal than a general distribution of funds. At least with a general disbursement,

Alleyne argued, "owners of Houses and small Parcels of Land with a few head of cattle" would receive some portion of the relief funds, "whereas upon the Plan of throwing the Bounty into the Treasury, these unhappy Subjects would have had, under all their bitter Sufferings and Distresses, nothing." The plan to use the funds to relieve taxes, Alleyne charged, "left a large Multitude in the Depth of Misery" while providing aid and relief to those "that must have blushed to take it."[28]

Alleyne's defense of the poor and "distressed" mixed humanitarian concern for the poor with larger political motives. Alleyne himself was a wealthy planter whose family had been in Barbados and in Barbadian politics for generations. One contemporary characterized him as a "noble, erect, and zealous asserter of the rights of the people," who championed Assembly rights and powers over the governor and Council. One year after assuming leadership of the Assembly in 1767, he clashed with Henry Frere over Frere's *Short History of Barbados.* Frere's book emphasized Barbados's loyalty to Britain and credited the British government (and governors) for the success of the colony. Frere also attacked the growing power of the Assembly and defended the rights and authority of the Council. Alleyne responded with a long pamphlet accusing Frere of attempting to "inculcate a Doctrine of the most abject and undistinguishing Submission to our Governors, by discouraging every Effort of Liberty, if it take the form of Opposition, in the Representatives of the People." Alleyne detailed corruption by individual governors and incompetence by the Council—"we see the Marks of Dependence and Imperfection but too visibly" in that branch—and underscored what he saw as the repeated salvation from both by the Assembly's defense of the people's rights and liberties. The feud between the two culminated in a bloodless duel. Alleyne's attack on the various Council plans thus entailed both defending the interests of poorer and middling whites and asserting the rights and prerogatives of the Assembly against the London-appointed governor and Council.[29]

Such humanitarian and political motives also were mixed in the debate on the Council bill whether to distribute the provisions separately. Straker, concerned about the cost of delay and the possibility of the provisions' spoiling, wanted to get supplies into the hands of those who needed it, but he also worried that any further delay might give Cunningham greater control over the relief process. By distributing the stores and provisions immediately, Straker argued, the House would demonstrate their "good sense and moderation" and could at least control that part of the procedure while they continued to

fight Cunningham, "our rapacious Plunderer," over distribution of the funds. Alleyne and several other members, however, worried that separate bills might imply that the funds could be used for purposes other than the relief of the victims. The motion to separate the money and provisions passed by one vote, but Alleyne managed to secure the backing of the Assembly for the plan to distribute the supplies and money to those most in need. The Council in turn rejected the two separate bills passed by the Assembly, and the stalemate between the two branches continued throughout March and into April 1782.[30]

Instructions from London finally arrived in late April 1782, more than eighteen months after the hurricane. Noting with some bureaucratic understatement that the "mode formerly proposed of disposing of the [bounty] by the Legislature of the Country" had been found "so difficult as to render the prosecution thereof unadviseable if not impractical," the Barbados Committee ordered that an equal number of members of the Council and the Assembly form a special committee, excluding the governor, with the power to distribute the bounty as they saw fit. Each house then nominated members, and the new committee met in early May. It immediately passed a motion by William Bishop of the Council to use half of the remaining funds for retiring the public debt, reserving the other half for direct distribution to victims of the hurricane. Alleyne again opposed the idea, but other members of the committee, including his fellow assemblyman Samuel Husbands, supported it, and the plan passed. As one early nineteenth-century historian of the island noted, "The boon that was intended for the relief of the poor distressed, was applied to lessen the taxes on the opulent possessors of slaves." Officials also agreed to divide the supplies and provisions equally among parishes, although Cunningham suggested that some of the stores were sold and the money divided between sufferers.[31]

Actual distribution of the parliamentary money was delayed for months, however, and numerous small expenses continued to cut into the principal. The London Committee shipped £20,000 sterling in specie to Barbados in December 1782—in two boxes conveniently labeled "Barbados Sufferers No. 1 and 2"—another £20,000 in January, and a final £3,500 in April 1783. Transporting actual coins rather than employing bills of exchange created additional expenses and deductions for freight and insurance. The committee in charge of distributing the money finally passed a resolution in August 1783 calling for commissioners to distribute £1,800 in each parish, among colonists

whose losses did not exceed £1,500, although in some cases advertisements of meetings where victims could claim losses did not appear until November. In the meantime the commissioners appropriated funds for a variety of public projects, including several thousand pounds for rebuilding the town hall in Bridgetown and £1,900 for repairing several churches destroyed in the storm, and paying the salary of the island's agent in London. Some of the money allocated by Parliament ultimately did end up in the hands of the poorest and neediest colonists, but political disputes in Barbados delayed distribution of the funds and diverted a significant proportion to the island's wealthiest colonists in the form of tax relief.[32]

Jamaican planters and merchants in London decided to send specie directly to the island rather than purchase supplies for the sufferers as their Barbadian counterparts had done. The committee's decision likely reflected the more limited geographic impact of the storm in Jamaica. The October 3 hurricane struck only the western parishes of the island, meaning that Kingston and other eastern parishes could provide some essential supplies and building materials to victims. What colonists needed was money, and the committee moved quickly after receiving word of Parliament's grant of £40,000. By mid-February 1781 it had arranged a loan with the Bank of England for £20,000—needed because the first convoy to Jamaica would sail before the money voted by Parliament was issued—half in guineas and half in Portuguese coins, and was awaiting special "boxes . . . with five locks on each" that were being made to hold the treasure. By the end of the February the first shipment was on its way to Jamaica, consigned to the legislature of the island to distribute as it saw fit. The committee shipped the rest of the money shortly thereafter.[33]

The money arrived in Jamaica in late May. Dalling complained at one point that debates in the Assembly were causing delays, but compared with the situation in Barbados, the process of determining who should receive aid moved smoothly and quickly through Jamaica's government channels. By mid-July a joint committee of the Council and the Assembly introduced a plan to distribute the funds. The committee declared that the money "ought to be distributed among those only who have been reduced by the hurricane to a state of poverty, and disabled from supporting themselves by their several occupations, and from being useful to the community in their former class." It limited relief funds to residents of Hanover and Westmoreland parishes, with some exceptions for those living in the bordering areas of St. James's and

St. Elizabeth's. The committee decided to immediately distribute £5,000 sterling among "really indigent" persons in sums not exceeding £100 currency. In the meantime, it called for a commission to investigate individual losses in order to distribute the rest of the bounty in the most equitable manner. Newspaper advertisements announced meetings of the commission, and all claims had to be filed by October 10. The Assembly readily agreed to the plan, with two significant amendments: it raised the amount of funds for immediate distribution from £5,000 to £10,000 and set aside £1,000 for rebuilding the barracks at Savanna-la-Mar.[34]

The process went forward smoothly, and by mid-October the committee had distributed the initial £10,000. Colonists especially welcomed the aid because it arrived after a second hurricane struck the island in August 1781, exacerbating the damage and distress from the 1780 storm ten months earlier. In a report to the joint committee of the Assembly and the Council, the commissioners listed the recipients of the initial grants, but they also decided to offer their thoughts on how to distribute the remaining £30,000. They suggested dividing the sufferers into two classes, sugar planters "who, from want of either money or credit, are unable to carry on their estates without a considerable assistance" and "smaller settlers and others; some of whom were partly relieved in the first distribution, though many were excluded." They suggested granting planters a sum not exceeding £1,000 and small settlers no more than £300. "Such a mode of distribution," they wrote, "though bearing no proportion to their losses, we think would be a very essential relief, and might be the means of preventing many estates and other settlements from being thrown up, and going to ruin." One member noted later that the commissioners believed that only planters living in the colony should receive assistance, not absentees. Although the new plan represented a dramatic shift from the initial bill regarding the bounty passed a few months earlier, the joint committee agreed with these new recommendations, and in early November it passed a resolution endorsing the plan. The Council and the Assembly added their approval in early November with little debate.[35]

The committee distributed £18,445 in Hanover parish, of which sugar planters received £10,150. In Westmoreland, planters received £12,450 out of £23,876 allocated in that parish. The committee also distributed £650 to planters in St. James's parish and £1,550 to planters in St. Elizabeth's. The commissioners granted receipts to individuals that could be redeemed for cash, but some colonists, tired of waiting, sold their receipts for less to get immediate money.

Thomas Thistlewood, for example, sold his share of the bounty (£140) to a local bookkeeper for roughly £127 in early January 1782.[36]

The relief process proceeded more quickly in Jamaica than in Barbados, but complaints soon emerged. The lack of debate in the Council and the Assembly suggests that few officials saw any problem with the new class-based distribution categories, but a number of individuals and groups in Jamaica vigorously challenged the committee and the rationale used to determine who received relief. They produced dozens of petitions, sometimes in bitter tones, protesting that the relief process was biased and unfair and that it aided the elite at the expense of the poor.

The first protests came from the free people of color in Hanover and Westmoreland parishes in March and April 1782, respectively. Before the storm, the residents of Hanover noted, they had lived in "very good dwelling houses," surrounded by "settlements of provisions, from which they received great plenty." The storm washed away their homes and fields, causing great distress. The free blacks complained that when they filed their claims the commissioners rejected them, stating that "the donation did not extend, nor was it meant to relieve people of color." The petitioners noted that they had received some provisions from the relief sent from Kingston and that they paid taxes, served in the militia, and were in general "good citizens." Questioning whether the "humanity and charity of the British nation could mean to exclude a large body of subjects . . . because their skins are brown," they argued that they too had a right to "the generous gift of the parent state" and hoped that "they may, in some measure, be considered as subjects who ought to be relieved." Westmoreland petitioners, many of whom also had served in the militia, sought aid to rebuild their homes and to "re-equip" themselves, but the commissioners told them that "the mulattoes were not to have anything." According to the petitioners, the only free blacks to receive aid were "some few free favourite women of colour," which they believed "can be more attributed to undue motives than a sense of justice." Their complaints, however, brought no redress.[37]

Parliament's resolution said nothing about race, but it did emphasize economic condition, and angry whites seized on that language to denounce the committee's decision to grant half of the bounty to wealthy sugar planters. In November 1782 white residents of Hanover and Westmoreland presented a series of sworn depositions to the Assembly. They accused the relief commissioners of a "partial, inadequate, and unjust distribution" of the bounty and argued that the committee had "perverted [their instructions] to purposes in-

compatible with the charitable intentions of the donors." Specifically, the petitioners complained that the committee redirected money intended for them—small planters, farmers, shopkeepers, and artisans—to "many persons of rank, figure, and fortune . . . contrary to every principle of moral arithmetic." The committee considered "merely the losses which such persons had suffered, and not their ability to support them, or the superiority of their fortune and condition." Nor did the committee take into account "the extensive and considerable" credit and resources available to large planters, which smaller settlers lacked. Increasing the injustice, the petitioners claimed, the commission charged extravagant rates for the flour and other provisions that Governor Dalling had made available at cost from military supplies, eliminating whatever relief might have come from the funds. They called on the Assembly to mount an investigation into the commissioners' actions, and they presented fifty-nine affidavits outlining specific cases of injury.[38]

These petitions came from a cross section of nonplanter white society in Jamaica (see table 7.1). Most petitioners whose occupations are known were either artisans or shopkeepers, which is not surprising given that the hurricane destroyed much of the small port city of Savanna-la-Mar and the surrounding farms and pens. A fisherman in Savanna-la-Mar reported that he lost not only personal belongings but also his fishing canoes and supplies and that he was struggling to survive. Several carpenters, tailors, and shopkeepers complained

*Table 7.1 Characteristics of Petitioners to Jamaican Assembly, 1782*

| Characteristic | Number | Percent |
|---|---|---|
| Men | 43 | 73 |
| Women | 15 | 25 |
| Children | 1 | 2 |
| Total | 59 | 100 |
| Merchant/shopkeeper | 10 | 17 |
| Artisan | 18 | 30 |
| Clerk | 3 | 5 |
| Planter/farmer | 7 | 12 |
| Fisherman | 3 | 5 |
| Widow or unkown | 18 | 30 |
| Total | 59 | 100 |
| Owned slaves | 15 | 25 |

*Source: Journal of the Assembly of Jamaica* 7:486–91.

that the storm left them "poor" and "destitute." Alexander Mylne, a mason in Hanover parish, testified that he had acquired some property over the years but that the hurricane "stripped" him of almost everything. He estimated his loss at £300, but the committee granted him no relief. Mylne, who was fifty years old, testified that the committee told him "that as he was a young man . . . they thought he was no object" for aid. An outraged Mylne stated that he knew of many "having been most liberally rewarded that had lost less, and were more able to sustain it." Likewise, James Buchanan of Hanover claimed losses of £1,500 but received only one barrel of flour, along with some rice and salt. He criticized what he believed was a "partial and unjust application" of the bounty.[39]

Although the majority of the petitioners were men, women formed a significant minority. Most women received some relief but complained that it was woefully inadequate. Mary Croll, a widow supporting seven children, stated her losses at £500. She received £100, part in specie and part in flour, but argued that she was charged the "extravagant rate of 8*l* 5s the barrel," and was "now in danger of starving with her large family." Hannah Fraser ran a boardinghouse in Savanna-la-Mar and lost everything in the hurricane but was "most inhumanely dismissed with only the trifling sum of 24*l.* 15s" and claimed she was "reduced to beggary." Elizabeth Fletcher stated that she lost her dwelling house, all her clothing and furniture, and her one slave. The hurricane caused her "great distress and sickness," but she received only one barrel of flour from the committee.[40]

Many of the petitioners had achieved a moderate degree of wealth and owned some property, but their estates appear far below the median average for the colony. Of those whose losses can be ascertained, the average loss claimed was £964. But removing the nine petitioners who claimed £1,500 or more in losses, the average claim drops to £350, and 41 percent of all claims were for £200 or less. For many petitioners, this probably represented a significant percentage of their total estates. Michael Rouse, for example, a tailor in Westmoreland, claimed that his losses of £98 represented "all he had" and that the hurricane had left him "entirely destitute." At least fifteen of the fifty-nine petitioners owned slaves, although several others probably did as well, since they are listed as planters. Slaveholdings, however, were small: of the ten petitioners who are known to have had slaves die in the storm, only one owned more than ten, and half owned only one or two slaves. Arthur Slater testified that the storm left him with nothing "but one negro and the clothes on his

back." One widow, Cicily Collom, stated that she had managed to "maintain herself and children, without troubling the parish or vestry." Her ability to do so came from the labor of two slaves, one valued at £100 currency, the other at £20. Both perished in the storm, and she now found herself "bereft of every possible means of supporting herself." Slaveholding thus was not necessarily an indicator of great wealth, and for several whites, particularly women, slaveholding appears to be the only thing keeping them off the poor rolls. Although some nonelite Jamaicans had acquired significant property and a few were living in "easy circumstances," most remained exceedingly vulnerable to external shocks such as hurricanes.[41]

It is difficult to assess the legitimacy of the petitioners' complaints. The Assembly held hearings during which commissioners portrayed the petitioners as self-serving and willing to stretch the truth to obtain money. The committee argued, for example, that the mason Mylne had plenty of work on a major estate, and although he might have lost some of his clothes and tools, "his situation was not hurt" by the hurricane. The committee declared that Hannah Fraser received more than adequate relief because she was already supported on the parish poor rolls. They also reported that several claimants owned no property before the storm yet claimed sizable losses. They forced the leader of the drive, Edward Woollery, to admit that several of his accusations were based on rumors and that he did not have the "facts from his own knowledge."[42]

No doubt some petitioners were self-serving and sought to gain a greater share of the relief pie. Others, however, appeared to face genuine hardship in the aftermath of the storm. The commissioners had great power in determining who received aid, and a number of subjective factors influenced their decisions. They rejected one claim because the petitioner was Jewish and "said to be kept by a black woman" and another because it came from a "Spaniard of colour." The commissioners rejected some petitions because they believed the claimant was "a person of no note" or a "woman of no repute." Others received little or no relief because the committee thought they were "young [and] healthy." They denied aid to William Chapman both because he "keeps a house at Savanna-la-Mar for the entertainment of slaves" and because they believed him to be "in much better circumstances at the distribution than before the storm," although they did not elaborate on the specifics of that charge. In response to some of Woollery's charges, moreover, the commissioners claimed to have information on which they based their judgments, "though they do

not think themselves at liberty, from motives of delicacy and justice, to state all the particulars within their knowledge, respecting the private fortunes of the sufferers" lest they cause embarrassment.[43]

In the end, the Assembly supported the commissioners and dismissed the petitions. Although admitting that "some mistakes may have been committed," the Assembly believed that the commissioners acted with the "most disinterested and humane motives" and that attacks on their "integrity and honour . . . [were] by no means deserved." Indeed, the key decision regarding the bounty had been made much earlier, when Jamaican officials altered the definition of the proper recipients of aid from those "reduced by the hurricane to state of poverty, and disabled from supporting themselves" to three distinct classes of victims. That decision, regardless of the commissioners' actions, meant that poverty and distress no longer served as the primary principles guiding the distribution of the bounty. In Jamaica as in Barbados, much of the relief intended for the "poorer class of sufferers," ended up in the hands of sugar planters.[44]

Debates over the relief process in both colonies reflect the significant divisions that existed within white society in the West Indies. Contemporary accounts often suggest that fear of the African slave majorities united whites across class lines. In denying freedom to slaves, whites created a relatively egalitarian society in which all whites had certain rights and privileges. The Jamaican planter and historian Bryan Edwards wrote that "a conscious equality, throughout all ranks and conditions" characterized relations among whites in the islands. "The poorest White person seems to consider himself nearly on a level with the richest, and, emboldened by this idea, approaches his employer with extended hand, and a freedom, which, in the countries of Europe, is seldom displayed by men in the lower orders of life." Such relations, Edwards continued, resulted from the exploitation of African slaves and were essential to preserving order in colonies where slaves heavily outnumbered whites. "A sense of common safety" united whites across class boundaries. Planters in Grenada stated that any "unnatural or unnecessary subordination and inequality among whites" threatened the social stability of the colonies.[45]

There is no doubt that the fear of the slave majority was a powerful unifying force among social and economic groups within white society. Such feelings appeared especially pronounced in the immediate aftermath of disasters, when the widespread destruction and chaos threatened the larger social order and, as we have seen, whites attempted to present a unified show of force.

Nevertheless, the conflict over disaster relief in 1780 suggests that a clear sense of social and economic hierarchy also characterized white society. Jamaican officials explicitly recognized those hierarchies by labeling three distinct socioeconomic classes during the relief process: "sugar planters," "small settlers," and the "poor and distressed." The language of the petitions to the Assembly, moreover, reveals the extent to which many colonists identified themselves (and others) by their economic status and position. One individual petitioner protesting the distribution of the bounty spoke of the "planting interest" in Jamaica. The general petition criticizing the commissioners distinguished between the "opulent" of Jamaican society and the "distressed and indigent." James Buchanan complained that "extraordinary sums . . . were distributed amongst people of greater fortune" at the expense of people who were unable to recover without outside help. Others noted that "small settlers" and the "indigent" received unfair treatment.[46]

Some colonists in Jamaica criticized the commissioners personally and directly. Elizabeth Hamilton, for example, characterized the commissioners as "devoid of all humanity" and described their actions as "unaccountable, barbarous, and inhuman." Another declared that her situation was "most inhumanely dismissed" by the commissioners and that she received "barbarous treatment." Many felt "injured" or "aggrieved." Others stated that they were treated with "contempt." Such language reveals something of the equality noted by Edwards in interactions between elites and nonelites. Far from deferring to the commissioners, these petitioners actively challenged the social authority and actions of the "gentlemen."[47]

Other petitioners appeared more circumspect, however, suggesting that hierarchy and deference remained important in defining social relationships among whites. Charles Payne stated that he had "very great respect for the planting interest, which ought to be cherished and supported by every means consistent with justice." Payne did not object that planters received relief money, just that he did not get enough assistance: "Surely the gentlemen commissioners have either overlooked my account of losses, or have otherwise been misinformed respecting my situation." Edward Woollery claimed that he knew of many other colonists—"neglected objects of real distress"—who would have signed petitions protesting the relief process but who, "fearing the power of the commissioners, and dreading the displeasure of the principal gentlemen of the parish," remained silent. They feared that to do otherwise "would give disgust, and create them enemies."[48]

Regardless of the amount of deference displayed, some of which almost certainly reflects individual personalities, all the petitions reveal a consciousness of distinct economic strata within Jamaican society. White colonists viewed themselves as belonging to different groups within the larger social whole, each with separate interests and concerns. Whiteness promoted a degree of egalitarianism, but Jamaica and the other colonies also remained hierarchical societies characterized by real divisions of wealth and status among the white population.[49]

No petitions from small farmers, fisherman, or artisans complaining about the relief process emerged in Barbados. Instead, Sir John Gay Alleyne and his followers championed the cause of nonelites against those who sought to use the bounty for purposes other than direct aid to the poor. Alleyne, however, repeatedly pointed out the important social and economic differences that existed among whites in the island at the time of the hurricane. He contrasted the "owners of Houses and small Parcels of Land with a few Head of Cattle" to the large planters, men of "comfortable" and "ample" fortunes. The former were the "poor and middling sort of people . . . the Yeomanry of the Country" and their needs and circumstances differed greatly from those of their wealthier neighbors. George Washington famously declared in the mid-eighteenth century that Barbados contained only rich and poor colonists, with few "midling people," but Alleyne paints a different portrait. As in Jamaica, distinct economic groupings marked white society.[50]

While the debates over the distribution of aid in Jamaica and Barbados shed light on social, political, and economic relationships within white society, Parliament's allocation of relief funds highlights the relationship between Britain and the colonies during the tumultuous revolutionary years. Parliament's grant of £120,000 sterling was an extraordinary action, driven by humanitarian sympathy for the tremendous suffering that followed the 1780 hurricanes in Jamaica and Barbados, but also by concern about the increasing criticism voiced by colonists in the West Indies and their allies in London about government policies during the American Revolution. Britain did not need to appease the West Indians; there was little chance that they would join the rebellion. Nevertheless, disaster relief made good political sense. It demonstrated Britain's concern for the welfare of its far-flung colonies and demonstrated the benefits of British subjecthood at a time when many colonists in America were revolting against that very idea.

# Beyond 1783

On October 20, 1786, Thomas Thistlewood awoke to a dark and cloudy day. In his weather journal he recorded that "hard gales with frequent squalls of wind" blew all morning from the north and northeast. Near 11:00 A.M. the wind began blowing "excessive hard" and shifted to the east. By early afternoon the hurricane reached peak intensity, and it continued to pound western Jamaica for the rest of the day. Hanover and Westmoreland parishes suffered particular damage: the storm blew down houses in the town of Savanna-la-Mar, and accounts suggested that "many of the estates in the leeward part of each parish are equally in as bad a situation as after the hurricane of October 1780." Thistlewood reported that the storm ripped the roof off his piazza and parts of his house and "the rain beat in." The storm eased somewhat by early evening, but "hard gales" continued during the night and throughout the next day. Thistlewood wrote that he "must defer giving account of the damage done till I have better health & can look about me." Thistlewood surveyed the landscape briefly the next morning, but better health did not return; he died six weeks later on November 30. He was buried on December 1 in the battered churchyard at Savanna-la-Mar.[1]

Hurricanes helped define Thomas Thistlewood's life in Jamaica and the lives of all colonists who settled in the Greater Caribbean during the seventeenth and eighteenth centuries. Hurricanes were entirely new to European migrants, and they quickly became a defining feature of the region's physical environment. The routine occurrence of hurricanes challenged efforts to establish permanent settlements, and forced colonists to rethink many of their basic ideas about the natural world, their economic expectations, and their architectural ideals. The storms regularly caused great physical and economic devastation during this period, leveling houses, towns, farms, and plantations and sinking ships. Valuable crops of sugarcane and rice lay ruined in the fields in the aftermath of major storms, as did plantation infrastructure. In the eyes of planters like Thistlewood, the widespread devastation created dangerous conditions of social disorder and left colonists vulnerable to rebellious slaves or opportunistic enemies in nearby colonies. For slaves, hurricanes brought more work and greater hardships. The storms destroyed provision crops as readily as staple crops, and along with the dangerous winds and storm surges, hunger and disease claimed the lives of many slaves throughout the seventeenth and eighteenth centuries. Colonists took what steps they could to lessen the devastation, such as altering building styles or constructing special hurricane shelters, but ultimately they could do relatively little. Living in the Greater Caribbean meant living with risk and volatility.

Hurricanes, of course, continued to batter the Greater Caribbean during the late eighteenth and early nineteenth centuries, and they posed many of the same obstacles for colonists. Indeed, in many ways the effect of hurricanes differed little from earlier decades. The storms continued to terrify and amaze all who experienced them, as they had since the beginning of colonization in the 1620s. Although residents gained more experience with the storms over time, "their immediate cause seems to lie far beyond the limits of our circumscribed knowledge," wrote the planter and historian Bryan Edwards in the 1790s. Despite some seventeenth-century accounts that called hurricanes "whirlewind[s]," it was not until the 1830s that the American scientist William Redfield and the British military engineer William Reid advanced the hypothesis that hurricanes were characterized by rotating winds circling a distinct center. In the meantime, the signs Captain Langford had learned from Native Americans in the second half of the seventeenth century remained central to discussions of the storms.[2]

The economic effect of the storms likewise mirrored that in earlier decades, reflecting the continued dominance of sugar and rice plantations in the region's economy. The storms still damaged and destroyed both the crops and the infrastructure used to process them, with major financial losses for planters. The persistence of slavery meant that planters remained concerned about the breakdown of social order. Slaves also continued to suffer the most from storms. Hurricanes in the early nineteenth century routinely claimed the lives of hundreds of slaves in South Carolina and the West Indies and worsened conditions for those who survived.[3]

Notwithstanding such continuities, the end of the American Revolution in 1783 is an important dividing point in the history of hurricanes in the region. The signing of the Treaty of Paris in 1783 marked the end of the first British Empire in America: South Carolina and Georgia joined the new United States of America, while the West Indian colonies remained loyal to Great Britain. Florida, briefly part of Britain's empire, was returned to Spain. Changes in the political geography of the region had important consequences for residents of old colonies and new states as they faced hurricanes in the years after 1783.

First, as noted in chapter 4, the orders-in-council passed by the British government in July 1783 maintained the restrictions on trade with the mainland. The orders prohibited American beef, pork, dairy products, and fish and required that all flour, grain, lumber, and vegetables arrive in British vessels. Although West Indian planters loudly protested that the restrictions would destroy plantation agriculture in the region, the trade restrictions proved less disruptive than many initially feared. Most plantations recovered impressively from wartime depression, and sugar production throughout the region surged after 1783. Smuggling and illegal trade with neutral islands ensured that provisions and supplies from the United States continued to arrive in Bridgetown, Kingston, and other ports throughout the British West Indies. Moreover, individual governors had the power to lift restrictions temporarily during crises, including the aftermath of hurricanes, and many did so, which eased shortages to some degree.[4]

Nevertheless, although the orders-in-council did not eliminate trade with the mainland, they did complicate it. Indirect trade with neutral islands or illegal commerce with American ships added expenses and burdens and limited the amount of supplies available in the wake of hurricanes. Prices often rose dramatically and colonists routinely complained about "exorbitant" costs for essential items. Many also charged that the short periods of exemption

from trade restrictions after storms did not provide enough time for American merchants to meet their needs. Planters in the Leeward Islands echoed their Jamaican counterparts after the 1785 hurricane, noting that if they were "not allowed to trade with the Continent of America, a famine is apprehended." Planters argued that the regulations cost the lives of thousands of slaves who perished from want after the multiple hurricanes of the 1780s, and they continually lobbied Parliament to repeal the orders.[5]

Even as they held out hope for a return to prewar trade relations, the loss of trade with the mainland pushed many planters to increase food production on their own estates. In Barbados, the crises of the 1770s and early 1780s resulted in a significant increase in locally produced provisions and a corresponding drop in imported foods. Indeed, Barbados appears to have achieved a degree of self-sufficiency by the end of the eighteenth century. In Jamaica, new laws required planters to grant slaves a "sufficient quantity of land" to grow provisions and time to work the land. Planters also encouraged planting root crops such as yams and potatoes, which were less likely to be damaged or destroyed during hurricanes. The reliance on plantains had proved disastrous during the 1780s, and many planters, especially in Jamaica, were determined not to repeat that mistake. One planter wrote that because of the "dreadful scarcity and famine which prevailed during the several years that we were afflicted with Hurricanes it was thought necessary to throw out every inducement to the Negroes to plant plenty of ground provisions and to depend less on their Plantane walks." As a result, "we are careful to allow them as much land as possible for ground Provisions."[6]

Whether such measures eased food shortages after hurricanes is difficult to determine. Ground provisions were not immune to destruction during hurricanes, and there is evidence that plantains still formed an important element of slave diets during the late eighteenth and early nineteenth centuries, particularly in Jamaica. However, although malnutrition remained an issue for slaves in the nineteenth century, some historians argue that because of the reforms planters undertook in the postwar decades, slaves in the early nineteenth century were "better fed and healthier" than those in the eighteenth century. Changes in diet and living conditions may have saved lives in the wake of hurricanes: better-fed slaves were less likely to succumb to disease than their predecessors, who often suffered from malnutrition even before hurricanes struck. Scarcities clearly remained common in the wake of hurricanes in the 1790s and thereafter, but their effect may have been somewhat less pronounced. Regard-

less, the trade restrictions created new conditions in the islands, which in turn influenced the effects of future hurricanes.[7]

Trade regulations gave meaning to the new political boundaries that divided the Greater Caribbean. So too did disaster relief. Local and private efforts in the United States and the British Empire continued to provide the most significant aid to disaster victims, but West Indian colonists received more help from Parliament than Americans got from the federal government during the nineteenth century. Although government relief remained sporadic and most disasters elicited little if any public aid, at times Parliament provided some assistance to hurricane victims in the West Indies. In the aftermath of a devastating hurricane in 1831, colonists in Barbados and the Windward Islands seeking financial assistance invoked the precedent of Parliament's action in 1780. British officials responded with a grant of £100,000, half directed to victims in Barbados, the other half split between colonists in St. Lucia and St. Vincent. In addition, Parliament made available £500,000 "for the purpose of restoring the buildings and works on estates." The money was a loan; colonists paid no interest for the first three years and a rate of 4 percent thereafter, but few took the money, "which was much clogged with conditions." Parliament again aided hurricane-ravaged colonies after the 1898 hurricane that swept across the Windward Islands. Officials appropriated £65,000 in direct aid to Barbados and St. Vincent for "relief, rehousing, and repairs of public works." They also granted an additional £50,000 in loans to each government, which in turn could extend loans to individual planters.[8]

The new United States government, by contrast, provided no assistance to hurricane victims in South Carolina, Georgia, or any other states during the nineteenth century. Congress occasionally allocated some aid to victims of other disasters, including grants of western land to victims of the 1811–12 New Madrid earthquakes, money to victims of an 1827 fire in Alexandria, Virginia, and food and tents to victims of tornadoes in Missouri and Mississippi in 1880. Citizens devastated by hurricanes, however, received no federal assistance until the twentieth century. Congress decided such actions case by case, and regardless of precedents for relieving victims of disasters, no public money went to aid hurricane victims. New political boundaries thus had some effect on how residents recovered from the devastation wrought by hurricanes after 1783.[9]

Other developments during the nineteenth century further changed social, political, economic, and cultural conditions in various parts of the Greater

Caribbean and, by extension, altered the effect of subsequent hurricanes. The abolition of slavery in the 1830s in the British West Indies and the 1860s in the American South; the decline of the lowcountry rice industry during the 1890s and, on some islands, the decline of the sugar industry; more scientific studies of hurricanes and their effects; new technologies like the telegraph; and the beginnings of systematic collection of weather data by military organizations in England and the United States would all influence how residents understood, experienced, and responded to hurricanes. The specific relation between such developments and the effects of hurricanes in the nineteenth century awaits further study.

Changing social, political, and economic conditions helped shape the history of hurricanes in the Greater Caribbean during the seventeenth and eighteenth centuries and beyond. What remained constant over time were the storms themselves. Each summer brought a renewed threat from hurricanes, and rarely a year passed that a storm did not strike somewhere, giving pause to residents throughout the region. Thomas Thistlewood wrote that after the 1751 hurricane older colonists told him stories of earlier storms, in 1744 and 1722, providing the newcomer with a sense of history and context. By the 1780s Thistlewood had begun ranking the hurricanes he had experienced in his diary, recording the devastation and contrasting them with the much weaker storms he had known in England. No doubt he too passed on his stories to younger colonists. Such accounts, written in diaries, told by individuals, or collected in more formal histories, served as chronicles of past events and reminders of future danger. Read today, they highlight the central role hurricanes played in the early modern history of the Greater Caribbean and the central place the storms occupied in the minds of all who lived there.[10]

# Appendix

This list includes the major hurricanes and tropical storms that struck the British Greater Caribbean from 1624 to 1786 and that are discussed in the text. It is by no means exhaustive. Dozens, and perhaps hundreds, more storms swept across the region during the seventeenth and eighteenth centuries. Storms that damaged French, Spanish, Dutch, and Danish colonies are not included, and because of my interest in how hurricanes affected colonial society, I have included only those that caused significant damage on land. A quick glance at any colonial newspaper highlights the threat hurricanes and tropical storms posed to shipping in the region. Readers who want a better sense of the total number of storms that struck in the region as a whole should consult the chronological catalogs of storms produced by Millás and by Rappaport and Fernandez-Partagas or Chenoweth's detailed study of Thomas Thistlewood's meteorological record books.

I have tried to cite the most readily available source for each storm. Other accounts and citations to some of these storms are noted in the text. The CD-ROM and online database editions of *The Calendar of State Papers, Colonial: North American and the West Indies, 1574–1739* and *Pennsylvania Gazette* provide particularly easy access, so many citations are to those sources. I have generally listed the storms with reference to the colonies that suffered the most from a specific hurricane and have tried to note when individual storms caused significant damage in more than one place. Dates are as they appear in the original texts.

| *Date of Occurrence* | *Location* | *Reference Name/Number* |
|---|---|---|
| September 19, 1624 | St. Christopher | Smith, *Complete Works,* 3:228 |
| September 4, 1626 | St. Christopher | Smith, *Complete Works,* 3:229 |
| August 5, 1638 | St. Christopher | Taylor, *Newes and Strange Newes* |
| 1653 | Barbados | "Father Biet's Visit to Barbados," 65 |
| 1657 | Leeward Islands | "Captain Langford's Observations," 407 |
| 1658 | Leeward Islands | "Captain Langford's Observations," 407 |
| 1660 | Leeward Islands | "Captain Langford's Observations," 407 |
| November 1660 | Barbados | "Swiss Medical Doctor's Description," 5 |
| 1665 | Leeward Islands | "Captain Langford's Observations," 407 |
| August 1666 | Leeward Islands | *CSPC,* 403, 410–13, 427; Schomburgk, *History*, 689 |
| August 19–22, 1667 | Barbados/Leeward Islands | "Captain Langford's Observations," 411; *CSPC,* 518 |
| August 1669 | Leeward Islands/Nevis | *CSPC,* 44–45, 47 |
| August 1670 | Barbados | Long, *History of Jamaica,* 3:622 |
| 1672 | Jamaica/Nevis | *CSPC,* 420–21 |
| August 10, 1674 | Barbados | Oldmixion, *British Empire,* 2:36; Schomburgk, *History,* 45 |
| 1674 | Leeward Islands | *CSPC,* 595 |
| August 31, 1675 | Barbados | *CSPC,* 294 |
| August 27–28, 1681 | St. Kitts | Jeaffreson, *Young Squire,* 1:274 |
| September, 1681 | Montserrat | Dampier, *Travels and Voyages,* 70–71 |
| October 4, 1681 | St. Kitts | Jeaffreson, *Young Squire,* 1:278–80 |
| August 26, 1686 | South Carolina | Ludlum, *Early American Hurricanes,* 41 |
| 1690 | Jamaica | Dunn, *Sugar and Slaves,* 220 |
| 1691 | Antigua | Long, *History of Jamaica,* 3:622 |
| September 27, 1694 | Barbados | *CSPC,* 385 |
| 1700 | Barbados | Oldmixion, *British Empire,* 2:71 |
| September, 3, 1700 | South Carolina | Ludlum, *Early American Hurricanes,* 42 |
| 1702 | Barbados | Long, History of Jamaica, 3:622 |

| *Date of Occurrence* | *Location* | *Reference Name/Number* |
|---|---|---|
| August 16–17, 1705 | Barbados | *CSPC,* 618–19 |
| August 29, 1707 | Leeward Islands | *CSPC,* 558–59 |
| August 28, 1712 | Jamaica | *CSPC,* 59–62 |
| September 5–6, 1713 | South Carolina | Ludlum, *Early American Hurricanes,* 43 |
| September, 1718 | Nevis | Smith, *Natural History of Nevis,* 240–41 |
| 1720 | Barbados | Long, *History of Jamaica,* 3:622 |
| August 28, 1722 | Jamaica | *CSPC,* 144–46 |
| September 19–20, 1723 | Leewards/Antigua | *CSPC,* 347–48; *CSPC,* 381; *CSPC,* [1724], 71–73 |
| August 17, 1724 | South Carolina | *CSPC,* 214 |
| October 22, 1726 | Jamaica | *CSPC,* 151–52 |
| August 2, 1728 | South Carolina | Ludlum, *Early American Hurricanes,* 43–44 |
| August 27, 1730 | South Carolina | *Pennsylvania Gazette,* October 22, 1730 |
| August 13, 1731 | Barbados | *CSPC,* 245–46 |
| June 30, 1733 | Leeward Islands | Robertson, *Short Account of the Hurricane* |
| August 31, 1734 | Jamaica | *CSPC,* 242–44 |
| August 27, 1737 | Leeward Islands | *Pennsylvania Gazette,* October 6, 1737 |
| August 18, 1738 | Leeward Islands | *Pennsylvania Gazette,* November 30, 1738; *CSPC* (1739), 30 |
| September 16, 1738 | Leeward Islands | *Pennsylvania Gazette,* November 30, 1738 |
| August 31, 1740 | Leeward Islands | *Pennsylvania Gazette,* October 9, 23, and November 6, 1740 |
| October 20, 1744 | Jamaica | *Pennsylvania Gazette,* January 22, 1745; February 12, 1745 |
| September 19, 1747 | Leeward Islands | *Pennsylvania Gazette,* October 15, 1747 |
| October 1747 | Leeward Islands | *Pennsylvania Gazette,* December 3, 1747; Henry Grenville letter, 11/7/1747 |
| September 8–11, 1751 | Leeward Islands/Jamaica | *Pennsylvania Gazette,* October 24 and November 14, 1751 |
| September 15, 1752 | South Carolina | *South Carolina Gazette,* September 19, 1752 |

| *Date of Occurrence* | *Location* | *Reference Name/Number* |
|---|---|---|
| September 30, 1752 | South Carolina | *South Carolina Gazette,* October 3, 1752 |
| September 14–18, 1754 | Leeward Islands/Jamaica | *Pennsylvania Gazette,* October 24, November 7, 1754 |
| October 6, 1766 | Leeward Islands | *Pennsylvania Gazette,* November 27, 1766 |
| September 7, 1769 | South Carolina | Ludlum, *Early American Hurricanes,* 48–49 |
| June 1770 | South Carolina | *Pennsylvania Gazette,* July 12, 1770 |
| August 30, 1772 | West Florida | Ludlum, *Early American Hurricanes,* 63–64 |
| August 31, 1772 | Leeward Islands | *Pennsylvania Gazette,* October 14, 1772 |
| September 1774 | East Florida | Bartram, *Travels in Georgia and Florida,* 192 |
| August 10, 1778 | South Carolina | *Pennsylvania Gazette,* September 26, 1778 |
| September 16–17, 1778 | Jamaica | Chenoweth, *18th–Century Climate of Jamaica,* 124 |
| October 9, 1778 | West Florida | Ludlum, *Early American Hurricanes,* 64 |
| August 18, 1779 | West Florida | Ludlum, *Early American Hurricanes,* 65 |
| October 3, 1780 | Jamaica | Fowler, *General Account of the Calamities* |
| October 10, 1780 | Barbados/Leeward Islands | Fowler, *General Account of the Calamities* |
| August 1, 1781 | Jamaica | Dalling to Germain, August 19, 1781, CO 138/29 |
| October 7–8, 1783 | South Carolina | Ludlum, *Early American Hurricanes,* 50–51 |
| July 30–31, 1784 | Jamaica | *Pennsylvania Gazette,* September 22, 1784 |
| August 24–28, 1785 | Leeward Islands/Jamaica | *Pennsylvania Gazette,* October 5, 1785; *Gentleman's Magazine* (1785): 1034 |
| September 2, 1786 | Barbados | *Gentleman's Magazine* (1786): 987–88 |
| October 19–20, 1786 | Jamaica | *Gentleman's Magazine* (1786): 1083 |

*Sources:* Philip Barbour, ed., *The Complete Works of Captain John Smith, 1580–1632* (Chapel Hill, NC, 1986), 3:228–29; John Taylor, *Newes and Strange Newes from St. Christophers, of a tempestuous Spirit, which is called by the Indians a Hurry-Cano or whirlewind* (London, 1638); "Captain Langford's Observations of his own Experience upon Hurricanes, and their Prognosticks," *Philosophical Transactions of the Royal Society* 20 (1698): 407–16; Karen Kupperman, John Appleby, and Mandy Banton, eds., *Calendar of State Papers, Colonial: North America and the West Indies* (London, 2000) (cited as *CSPC*); Jerome Handler, ed., "Father Biet's Visit to Barbados in 1654," *JBMHS* 32 (May 1967): 56–76; Alexander Gunkel and Jerome Handler, eds., "A Swiss Medical Doctor's Description of Barbados in 1661: The Account of Felix Christian Spoeri," *JBMHS* 33 (May 1969): 3–13; John Cordy Jeaffreson, ed., *A Young Squire of the Seventeenth Century: From the Papers of Christopher Jeaffreson* (London, 1878), 1:275–77; Edward Long, *The History of Jamaica* (London, 1774); William Dampier, *Voyages and Descriptions: Volume II in Three Parts* (London, 1700); John Oldmixon, *The British Empire in America* (London, 1708); [Rev. Robert Robertson], *A Short Account of the Hurricane that pass'd thro' the English Leeward Caribbee Islands* (London, 1733); Henry Grenville to George Grenville, 11/7/1747, Stowe-Grenville Manuscripts, box 24, folder 6, Huntington Library, California; David Ludlum, *Early American Hurricanes, 1492–1870* (Boston, 1963); John Fowler, *A General Account of the Calamities Occasioned by the Late Tremendous Hurricanes and Earthquakes in the West-India Islands* (London, 1781); William Bartram, *Travels in Georgia and Florida, 1773–74: A Report to Dr. John Fothergill, Transactions of the American Philosophical Society* 33 (Philadelphia, 1943): 162–63, 192; Robert Schomburgk, *The History of Barbados, Comprising a Geographical and Statistical Description of the Island* (London, 1848; reprint, 1971); Richard Dunn, *Sugar and Slaves: The Rise of the Planter Class in the British West Indies, 1624–1713* (Chapel Hill, NC, 1972), 220; Michael Chenoweth, *The Eighteenth-Century Climate of Jamaica: Derived from the Journals of Thomas Thistlewood, 1750–1786, Transactions of the American Philosophical Society* 93 (2003): 124.

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# Notes

Abbreviations of Commonly Cited Texts

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| APS | American Philosophical Society, Philadelphia, Pennsylvania |
| Bohun, *Origine and Properties of Wind* | R. Bohun, *A Discourse concerning the Origine and Properties of Wind, with an Historicall Account of Hurricanes and Other Tempestuous Winds* (Oxford, 1671) |
| CO | Colonial Office Series, Class/Volume/Page, British Public Record Office, Kew, England |
| *CSPC* | *Calendar of State Papers Colonial Series, America and the West Indies* (London, 1860–) |
| FitzHerbert Papers | Papers of William FitzHerbert in Derbyshire Record Office (microfilm copy Barbados Archives, Black Rock, St. Michaels) |
| Fowler, *General Account of the Calamities* | John Fowler, *A General Account of the Calamities Occasioned by the Late Tremendous Hurricanes and Earthquakes in the West-India Islands* (London, 1781) |
| *JAJ* | *Journals of the Assembly of Jamaica* (Kingston, Jamaica, 1802–4) |
| *JBMHS* | *Journal of the Barbados Museum and Historical Society* |
| *Jeaffreson Papers* | John Cordy Jeaffreson, ed., *A Young Squire of the Seventeenth Century: From the Papers of Christopher Jeaffreson* (London, 1878) |
| *Laurens Papers* | Philip Hamer et al., eds., *Papers of Henry Laurens* (Columbia, SC, 1968–2000) |
| Leslie, *New and Exact Account of Jamaica* | Charles Leslie, *A New and Exact Account of Jamaica* (Edinburgh, 1740) |
| Ludlum, *Early American Hurricanes* | David Ludlum, *Early American Hurricanes, 1492–1870* (Boston, 1963) |
| Oliver, *Caribbeana* | Vere Langford Oliver, ed., *Caribbeana: Being Miscellaneous Papers relating to the History, Genealogy, Topography, and Antiquities of the British West Indies* (London, 1910) |
| Rochefort, *History of the Caribby-Islands* | Charles de Rochefort, *The History of the Caribby-Islands,* trans. John Davies (London, 1666) |

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|---|---|
| "Senhouse Manuscript" | "Autobiographical Manuscript of William Senhouse," *Journal of Barbados Museum and Historical Society* (1935–36) |
| Thistlewood Diaries | Manuscript Diaries of Thomas Thistlewood, Monson 31/1–37, Lincolnshire County Archives (microfilm copy University of the West Indies, Mona, Jamaica) |

Introduction

1. "Account of a Hurricane," *Scots Magazine* 13 (1751): 543–44; Thomas Thistlewood Diaries, September 11, 1751, microfilm copy in the Elsa Goveia Reading Room, University of the West Indies, Mona. For background on Thistlewood, see Trevor Burnard, *Mastery, Tyranny, and Desire: Thomas Thistlewood and His Slaves in the Anglo-Jamaica World* (Chapel Hill, NC, 2004); Trevor Burnard, "Thomas Thistlewood Becomes a Creole," in *Varieties of Southern History: New Essays on a Region and Its People,* ed. Bruce Clayton and John Salmond (Westport, CT, 1996), 99–118; Philip Morgan, "Slaves and Livestock in Eighteenth-Century Jamaica: Vineyard Pen, 1750–51," *William and Mary Quarterly* 52 (January 1995): 47–76; Douglas Hall, *In Miserable Slavery: Thomas Thistlewood in Jamaica, 1750–86* (London, 1989).

2. Thomas Thistlewood Diaries, September 12–15, 1751; "Account of a Hurricane," 543–44.

3. Henry Grenville to George Grenville, September 27, 1751, Stowe-Grenville Manuscripts, box 25, folder 33, Huntington Library, San Marino, California; *Pennsylvania Gazette,* October 24, 1751; *Boston Gazette,* October 8 and 22, 1751; "Account of a Hurricane," 543–44.

4. "Account of a Hurricane," 543–44; Henry Grenville to George Grenville, September 27, 1751.

5. Peter Hulme, *Colonial Encounters: Europe and the Native Caribbean, 1492–1797* (London, 1986), 4–5.

6. *An Almanack and Register for Jamaica for the Year 1760* (Kingston, Jamaica, 1759); *The Royal Almanack and Register for the Island of Jamaica for the Year . . . 1787* (Kingston, Jamaica, 1786); Nicholas Lawes to Council of Trade and Plantations, September 20, 1722, *CSPC,* 184–85; *JAJ,* 2:428; *South Carolina Gazette,* November 20, 1752.

7. Eric Williams, *Capitalism and Slavery* (Chapel Hill, NC, 1944), 52; John McCusker and Russell Menard, *The Economy of British America, 1607–1789,* 2nd ed. (Chapel Hill, NC, 1989), 144–68; Richard Sheridan, *Sugar and Slavery: An Economic History of the British West Indies, 1623–1775* (1974; reprint, Kingston, Jamaica, 2000); Richard Pares, *Yankees and Creoles: The Trade between North America and the West Indies Before the American Revolution* (Cambridge, 1956).

8. See, for example, Richard Dunn, *Sugar and Slaves: The Rise of the Planter Class in the British West Indies, 1624–1713* (Chapel Hill, NC, 1972); Carl Bridenbaugh and Roberta Bridenbaugh, *No Peace Beyond the Line: The English in the Caribbean, 1624–1690* (New York, 1972); David Watts, *The West Indies: Patterns of Development, Culture, and Change since 1492* (Cambridge, 1987); Robert Weir, *Colonial South Carolina: A History* (New York, 1983; reprint, Columbia, SC, 1997); Ludlum, *Early American Hurricanes;* José Carlos Millás, *Hurricanes of the Caribbean and Adjacent Regions, 1492–1800* (Miami, 1968).

9. Jack Greene, *Pursuits of Happiness: The Social Development of the Early Modern British Colonies and the Formation of American Culture* (Chapel Hill, NC, 1988), 166–209; T. H. Breen, "Creative Adaptations: Peoples and Cultures," in *Colonial British America: Essays in the New History of the Early Modern Era,* ed. Jack Greene and J. R. Pole (Baltimore, MD, 1984), 195–232; Dunn, *Sugar and Slaves;* Karen Kupperman, "The Puzzle of the American Climate in the Early Colonial Period," *American Historical Review* 87 (December 1982): 1262–89; Edward Kamau Brathwaite, *The Development of Creole Society in Jamaica, 1770–1820* (Oxford, 1971), xiii–xvi, 306–11; Burnard, "Thomas Thistlewood Becomes a Creole," 99–118; Mart Stewart, "*What Nature Suffers to Groe*": *Life, Labor, and Landscape on the Georgia Coast, 1680–1920* (Athens, GA, 1996), 1–11; William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York, 1983), 9–15, 119–20.

10. Stuart Schwartz, "The Hurricane of San Ciriaco: Disaster, Politics, and Society in Puerto Rico, 1899–1901," *Hispanic American Historical Review* 72 (November 1992): 303–34; Kenneth Hewitt, "The Idea of Calamity in a Technocratic Age," in *Interpretations of Calamity from the Viewpoint of Human Ecology,* ed. Kenneth Hewitt (Boston, 1983); Anthony Oliver-Smith, "Disaster Context and Causation: An Overview of Changing Perspectives in Disaster Research," *Natural Disasters and Cultural Responses in Third World Societies* 36 (June 1986): 1–34; Anthony Oliver-Smith, "Theorizing Disasters: Nature, Power, and Culture," in *Catastrophe and Culture: The Anthropology of Disaster,* ed. Susanna Hoffman and Anthony Oliver-Smith (Santa Fe, NM, 2002); Alessa Johns, ed., *Dreadful Visitations: Confronting Natural Catastrophe in the Age of Enlightenment* (New York, 1999); Steven Biel, ed., *American Disasters* (New York, 2000); Theodore Steinberg, *Acts of God: The Unnatural History of Natural Disaster in America* (New York, 2000); Louis Perez, *Winds of Change: Hurricanes and the Transformation of Nineteenth Century Cuba* (Chapel Hill, NC, 2001), 83–108.

11. Anthony Oliver-Smith and Susanna Hoffman, "Introduction: Why Anthropologists Should Study Disasters," in Oliver-Smith and Hoffman, *Catastrophe and Culture,* 9–12; Schwartz, "Hurricane of San Ciriaco," 303.

12. The concept originated with Immanuel Wallerstein, who used the term "extended Caribbean" to delineate the slave-based, staple-crop-producing plantation zone extending from Bahia in northern Brazil to Virginia. Immanuel Wallerstein, *The Modern World System,* vol. 2, *Mercantilism and the Consolidation of the European World Economy, 1600–1750* (New York, 1974), 103, quoted in Hulme, *Colonial Encounters,* 3–5. Other scholars employing a similar geographic framework include David Gaspar and David Geggus, eds., *A Turbulent Time: The French Revolution and the Greater Caribbean* (Bloomington, IN, 1997).

13. See, for example, Mark Catesby, *The Natural History of Carolina, Florida, and the Bahama Islands* (London, 1731), xi; Greene, *Pursuits of Happiness,* 152–54; Michael Jarvis, "Maritime Masters and Seafaring Slaves in Bermuda, 1680–1715," *William and Mary Quarterly* 59 (July 2002): 585–623.

14. Peter Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* (New York, 1974), 3–34, quotation on Carolina, 33; Jack Greene, "Colonial South Carolina and the Caribbean Connection," in Greene, *Imperatives, Behaviors, and Identities: Essays in Early American Cultural History* (Charlottesville, VA, 1992), 68–86; Philip Morgan, *Slave Counterpoint: Black Culture in the Eighteenth-*

*Century Chesapeake and Lowcountry* (Chapel Hill, NC, 1998), 40–41; Dunn, *Sugar and Slaves,* 91, 142–43, 171. On levels of wealth, see McCusker and Menard, *Economy of British America,* 61; Trevor Burnard, "'Prodigious Riches': The Wealth of Jamaica Before the American Revolution," *Economic History Review* 54 (2001): 506–24; Russell Menard, "Slavery, Economic Growth, and Revolutionary Ideology in the South Carolina Lowcountry," in *The Economy of Early America: The Revolutionary Period, 1763–1790,* ed. Ronald Hoffman et al. (Charlottesville, VA, 1988), 265.

15. Population figures from Sheridan, *Sugar and Slaves,* 150; Burnard, "'Prodigious Riches,'" 507.

16. Jack Greene, "Travails of an Infant Colony: The Search for Viability, Coherence, and Identity in Colonial Georgia," in Greene, *Imperatives, Behaviors, and Identities,* 113–42; *South Carolina Gazette,* September 27, 1752. Modern estimates indicate that Georgia experiences fewer hurricanes. See Bob Sheets and Jack Williams, *Hurricane Watch: Forecasting the Deadliest Storms on Earth* (New, York 2001), app. D, 293.

17. Bernard Bailyn, *Voyages to the West: A Passage in the Peopling of America on the Eve of the Revolution* (New York, 1986), 430–94, population figures on 493; Cecil Johnson, "Expansion in West Florida, 1770–1779," *Mississippi Valley Historical Review* 20 (March 1934): 481–96; Daniel Schafer, "'Yellow Silk Ferret Tied Round Their Wrists': African Americans in British East Florida, 1763–1784," in *The African American Heritage of Florida,* ed. David Colburn and Jane Landers (Gainesville, FL, 1995), 71–103; Joyce Chaplin, *An Anxious Pursuit: Agricultural Innovation and Modernity in the Lower South, 1730–1815* (Chapel Hill, NC, 1993), 202–6. One estimate placed the population of East Florida in 1774 at 1,000 whites and 3,000 slaves; Lawrence Henry Gibson, *The British Empire Before the American Revolution,* vol. 13, *The Triumphant Empire* (New York, 1967), 97; Jay Barnes, *Florida's Hurricane History* (Chapel Hill, NC, 1998), 48–52. On a 1774 hurricane, see William Bartram, *Travels in Georgia and Florida, 1773–74: A Report to Dr. John Fothergill, Transactions of the American Philosophical Society* 33, part 2 (Philadelphia, 1943): 162–63, 192.

18. See Perez, *Winds of Change,* 131–38. Likewise, for English critiques of the Spanish response to the devastation in Lima following a 1746 earthquake, see Charles Walker, "Shaking the Unstable Empire: The Lima, Quito, and Arequipa Earthquakes of 1746, 1783, and 1797," in Johns, *Dreadful Visitations,* 113–44.

## ONE: Encountering Hurricanes

1. Philip Barbour, ed., *The Complete Works of Captain John Smith, 1580–1632* (Chapel Hill, NC, 1986), 3:228–29.

2. Barbour, *Complete Works of Captain John Smith,* 3:229.

3. Karen Kupperman, "The Puzzle of the American Climate in the Early Colonial Period," *American Historical Review* 87 (December 1982): 1262–89; Karen Kupperman, "The Fear of Hot Climate in the Anglo-American Colonial Experience," *William and Mary Quarterly* 41 (April 1984): 213–40; Karen Kupperman, "Climate and Mastery of the Wilderness in the Seventeenth-Century New World," in *Seventeenth-Century New England History,* ed. David Hall and David Grayson (Boston, 1986), 3–37; Joyce Chaplin, *Subject Matter: Technology, the Body, and Science on the Anglo-American Frontier, 1500–1676* (Cambridge, MA, 2001); Joyce Chaplin, "Climate and Southern Pessimism: The Natural History of an Idea, 1500–1800," in *The South as an American Problem,* ed. Larry Griffin and Don Doyle (Athens, GA, 1995), 57–82.

4. Rochefort, *History of the Caribby-Islands,* 143–44; "Captain Langford's Observations of his own Experience upon Hurricanes, and their Prognosticks," *Philosophical Transactions of the Royal Society* 20 (1698): 413; William Beckford, *A Descriptive Account of the Island of Jamaica* (London, 1790), 1:89; Edmund Burke, *An Account of the European Settlements in America,* 6th ed. (London, 1777), 2:96. On the novelty of hurricanes, see Peter Hulme, *Colonial Encounters: Europe and the Native Caribbean, 1492–1797* (London, 1986), 94.

5. Jay Barnes, *North Carolina's Hurricane History* (Chapel Hill, NC, 1995), 6–25; Jay Barnes, *Florida's Hurricane History* (Chapel Hill, NC, 1998), 11–30; Bob Sheets and Jack Williams, *Hurricane Watch: Forecasting the Deadliest Storms on Earth* (New York, 2001), 29–53. For a more technical discussion, see Kerry Emanuel, "Toward a General Theory of Hurricanes," *American Scientist* 76 (July–August 1988): 371–79; Roger Pielke Jr. and Roger Pielke Sr., *Hurricanes: Their Nature and Impacts on Society* (Chichester, UK, 1997); Ernest Zebrowski, *Perils of a Restless Planet: Scientific Perspectives on Natural Disasters* (Cambridge, 1997).

6. Until recently, it was thought that the water temperature needed to extend a certain distance below the surface, but new research has shown that to be false. Kerry Emanuel to author, July 8, 2003.

7. Zebrowski, *Perils of a Restless Planet,* 235–43; Peter Robinson and Ann Henderson-Sellers, *Contemporary Climatology,* 2nd ed. (London, 1986), 138–40.

8. Sheets and Williams, *Hurricane Watch,* 34–39; Zebrowski, *Perils of a Restless Planet,* 239–51; Barnes, *Florida's Hurricane History,* 19–27.

9. Barnes, *Florida's Hurricane History,* 22, 28–29.

10. Sheets and Williams, *Hurricane Watch,* xiv; Kerry Emanuel, "Tropical Cyclones," *Annual Review of Earth and Planetary Sciences* 31 (2003): 75–104; David Watts, *The West Indies: Patterns of Development, Culture, and Environmental Change since 1492* (Cambridge, 1987), 530.

11. Florida is the state with the greatest probability of being struck by a hurricane, but the entire Gulf and Atlantic coasts from Texas to Maine are vulnerable. See appendix D in Sheets and Williams, *Hurricane Watch,* 292–93. See also James Elsner and A. Birol Kara, *Hurricanes of the North Atlantic: Climate and Society* (New York, 1999), 181–89.

12. Peter Martyr, *Decades of the New World or West India,* (1511), reprinted in Ludlum, *Early American Hurricanes,* 4.

13. Oviedo and Las Casas quoted in Louis Perez, *Winds of Change: Hurricanes and the Transformation of Nineteenth-Century Cuba* (Chapel Hill, NC, 2001), 18–19.

14. Clements Markham, ed., *The Hawkins Voyages during the Reigns of Henry VIII, Queen Elizabeth, and James I,* Publications of the Hakluyt Society, 1st ser., 57 (London, 1878; reprint, 1970), 73; Barnes, *North Carolina's Hurricane History,* 34.

15. Bohun, *Origine and Properties of Wind,* 269; William Strachey, *A True Reportory of the Wracke and Redemption of Sir Thomas Gates,* in *The Elizabethan's America: A Collection of Early Reports by Englishmen on the New World,* ed. Louis Wright (London, 1965), 190; "the dreadful spout/Which shipman do the hurricano call," *Troilus and Cressida* (1602), 5.2.171; "Blow, winds, and crack your cheeks! Rage! Blow!/You cataracts and hurricanoes," *King Lear* (1605), 3.2.1–2. See S. K. Heninger, *A Handbook of Renaissance Meteorology, with Particular Reference to Elizabethan and Jacobean Literature* (Durham, NC, 1960), 212; Hulme, *Colonial Encounters,* 89–95; David Scott Kastan, "'The Duke of Milan/And His Brave Son': Old Histories and New in *The Tempest,*" *Shakespeare After Theory* (New York, 1999), 183–97.

16. John Taylor, *Newes and Strange Newes from St. Christophers of a tempestuous Spirit, which is called by the Indians a Hurry-Cano or whirlewind* (London, 1638), 6–8.

17. Antoine Biet, *Voyage de la France Equinoxiale en l'isle de Cayenne* (Paris, 1664), 285. There is a partial translation of Biet's account, but it does not include the four pages describing the hurricane. See Jerome Handler, ed., "Father Biet's Visit to Barbados in 1654," *JBMHS* 32 (May 1967): 65; Alexander Gunkel and Jerome Handler, ed., "A Swiss Medical Doctor's Description of Barbados in 1661: The Account of Felix Christian Spoeri," *JBMHS* 33 (May 1969): 5; Lt. Gov. William Willoughby and Council of Barbadoes to the King, September 29, 1666, *CSPC,* 412–13; Wm. Lord Willoughby to Sec. Lord Arlington, November 3, 1672, *CSPC,* 424–25.

18. Robert Schomburgk, *The History of Barbados, Comprising a Geographical and Statistical Description of the Island* (London, 1848; reprint, 1971), 45–46; Daniel Defoe, *The Storm, or A Collection of the most Remarkable Casualties and Disasters which happen'd in the Late Dreadful Tempest* (London, 1704), 22; Michael Chenoweth, *The Eighteenth-Century Climate of Jamaica: Derived from the Journals of Thomas Thistlewood, 1750–1786, Transactions of the American Philosophical Society* 93 (2003): 34.

19. Jonathan Atkins to Joseph Wilkinson, October 13, 1675, *CSPC,* 294; *A Continuation of the State of New England* (London, 1676).

20. Bohun, *Origine and Properties of Wind,* 264; Richard Blome, *The Present State of His Majesty's Territories in America* (London, 1687), 3–4; also John Ogilby, *America: Being the Latest and Most Accurate Description of the New World* (London, 1671), 338; "The Situation of the Island [of Jamaica]" 1660, CO 1/14/125–37; Thomas Bromhall to Williamson, Nov. 28, 1670, *CSPC,* 139; Governor Lord Vaughan to Sec. Sir Joseph Williamson, September 20, 1675, *CSPC,* 280–82.

21. Sir Thomas Lynch to Henry Slingesby, (Secretary to the Council for Plantations), October 9, 1672, *CSPC,* 420–21. Lynch reported that a hurricane "has reached this island which none ever did before." Thomas Kitchin, *The Present State of the West Indies* (London, 1778), 54; see also William Dampier, *Voyages and Descriptions* (London, 1700), 65; *Pennsylvania Gazette,* September 22, 1784.

22. Robert Horne, *A Brief Description of the Province of Carolina* (London, 1666), reprinted in *Narratives of Early Carolina, 1650–1708,* ed. A. S. Salley (New York, 1911), 70; "Letters from Captain Brayne to Lords Proprietors," *Collections of the South Carolina Historical Society* (Charleston, SC, 1897), 5:230, 252; Lords Proprietors of Carolina to Earl of Shaftesbury, Nov. 20, 1674, *CSPC,* 620–22; Jack Greene, "Early South Carolina and the Psychology of British Colonization," in Greene, *Imperatives, Behaviors, and Identities: Essays in Early American Cultural History* (Charlottesville, VA, 1992), 87–112.

23. "Paper to the Lords Proprietor," c. 1686, reprinted in Ludlum, *Early American Hurricanes,* 41; Governor the Earl of Bellomont to the Lords of the Admirality, 1700, *CSPC,* 597–98; *The South Carolina Chronicle of Dr. Francis Le Jau,* quoted in Ludlum, *Early American Hurricanes,* 43; "Description of a Hurricane in South Carolina, September 6, 1713," Papers of the Royal Society, microfilm copy at APS.

24. Edward Randolph to the Lords Commissioners for Trade and Plantations, June 28, 1699, in A. S. Salley, ed., *Records of the British Public Record Office relating to South Carolina* (Columbia, 1946), 4:95; Burke, *Account of the European Settlements in America,* 2:241; Mark Catesby, *The Natural History of Carolina, Florida, and the Bahama Islands* (London, 1731), xi.

25. *Strange Newes from Virginia, Being a True Relation of a Great Tempest in Virginia* (London, 1667); see also Samuel Mavericke to Lord Arlington, October 16, 1667, *CSPC,* 509–10; Sir Thomas Laurence to the Council of Trade and Plantations, October 25, 1703, *CSPC,* 767–69.

26. William Bradford, *Of Plymouth Plantation,* ed. Samuel Eliot Morrison (New York, 1952; reprint, 1989), 279; Biet, *Voyage de la France Equinoxiale en l'isle de Cayenne,* 285.

27. Rochefort, *History of the Caribby-Islands,* 144–45; Increase Mather, *An Essay for the Recording of Illustrious Providences* (Boston, 1684; reprint, Delmar, NY, 1977), 320; Robert Beverley, *The History and Present State of Virginia* (London, 1705; reprint, Chapel Hill, NC, 1947), 299; "An Extract of Several Letters from Cotton Mather," *Philosophical Transactions of the Royal Society* 29 (1714): 70; Edmond Halley, "An Historical Account of the Trade Winds, and Monsoons, observable in the seas between and near the Tropics," *Philosophical Transactions of the Royal Society* 16 (1686): 157–58; Dampier, *Voyages and Descriptions,* 71–72; On Carolina in "ye Indies," see Peter Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* (New York, 1974), 33.

28. Hector M'Neill, *Observations on the Treatment of Negroes in the Island of Jamaica* (London, 1788?), 39; William Dunbar, "Remarks on the Climate of Mississippi" (1804), reprinted in Ludlum, *Early American Hurricanes,* 65–66; Thistlewood Diaries, August 7, 1781.

29. Taylor, *Newes and Strange Newes,* 4; [N. N.], *America, or An Exact Description of the West Indies* (London, 1655), 47; Rochefort, *The History of the Caribby-Islands,* 143. Proverb quoted in Carl Bridenbaugh and Roberta Bridenbaugh, *No Peace Beyond the Line: The English in the Caribbean, 1624–1690* (New York, 1972), 186. The official hurricane season today extends from June 1 to November 30, but the greatest number of storms—87 percent of all category one and two hurricanes and 96 percent of all category three, four, and five hurricanes—strike in August through October. See Sheets and Williams, *Hurricane Watch,* 285.

30. Major John Scott (Nevis) to Joseph Williamson, July 16, 1667, *CSPC,* 483; see also William Smith, *A Natural History of Nevis* (Cambridge, 1745), 240–41, and John Bartram, *Diary of a Journey through the Carolinas, Georgia, and Florida, 1765–66, Transactions of the American Philosophical Society* 33, part 1 (Philadelphia, 1942): 20.

31. Henry Grenville to George Grenville, September 27, 1751, Stowe-Grenville Manuscripts, box 25, folder 33, Huntington Library, San Marino, California.

32. Governor Sir Jonathan Atkins to Sir Joseph Williamson, November 3, 1674, *CSPC,* 595; Atkins to the Lords of Trade and Plantations, July 14, 1676, *CSPC,* 424–25; "Description of a Hurricane in 1670," in Oliver, *Caribbeana,* 3:315; Ralph Payne to Earl of Hillsborough, September 5, 1772, CO 152/52/101–2; Strachey, *True Reportory of the Wracke,* 188–89.

33. Strachey, *True Reportory of the Wracke,* 188–89; "Account of a Hurricane," *Scots Magazine* 13 (November 1751), 543–44; Thistlewood Diaries, October 3, December 31, 1780; Beckford, *Descriptive Account of Jamaica,* 1:91.

34. Beckford, *Descriptive Account of Jamaica,* 1:95–96; [Peter Marsden] A Gentleman Lately Resident on a Plantation, *An Account of the Island of Jamaica* (Newcastle, Eng., 1788), 14; Alexander Hamilton to *Royal Danish American Gazette,* September 6, 1772, in Hamilton, *Writings,* ed. Joanne Freeman (New York, 2001), 6; On the sounds

of storms in early America, see Richard Rath, *Worlds Chanted into Being: Soundways in Early America* (Ph.D. diss., Brandeis University, 2001), esp. 31–93.

35. Hamilton to *Royal Danish American Gazette,* September 6, 1772, in Hamilton, *Writings,* 6; "Senhouse Manuscript," *JBMHS* 2 (August 1935): 208; Thistlewood Diaries, October 8, October 15, 1780; Beckford, *Descriptive Account of Jamaica,* 1:115.

36. Lord Hamilton to the Council of Trade and Plantations, October 10, 1712, *CSPC,* 61; William Dampier, *Voyages and Descriptions* (London, 1700), 70; Thistlewood Diaries, October 4, October 3, 1780; Account of the 1780 Storm at Barbados, CO 28/57/208; *The Works of James Houtoun, M.D, Containing Memoirs of His Travels in Asia, Africa, America, and Most Parts of Europe* (London, 1753?), 284–85. My thanks to Phil Morgan for this reference.

37. Lord George Rodney to Philip Stephens, December 10, 1780, *Letter-Books and Order-Book of George, Lord Rodney, Admiral of the White Squadron, 1780–82* (New York, 1932), 1:91; Roswell King quoted in Mart Stewart, *"What Nature Suffers to Groe": Life, Labor, and Landscape on the Georgia Coast, 1680–1920* (Athens, GA, 1996), 138–39; Ralph Payne to the Earl of Hillsborough, September 5, 1772, CO 152/52/102; *Barbados Mercury,* October 28, 1780, CO 28/57/214.

38. *Weekly Jamaica Courant,* September 12, 1722, CO 137/14/176; *Kingston Gazette,* October 7, 1780, and "Letter from the Inhabitants of Savanna la Mar to Governor Dalling," October 8, 1780, both reprinted in Fowler, *General Account of the Calamities,* 7–8, 13–17; *South Carolina Gazette,* September 19, 1752.

39. Taylor, *Newes and Strange Newes,* 7; Dampier, *Voyages and Descriptions,* 70; Rochefort, *History of the Caribby-Islands,* 143; Pierre François Charlevoix, *A Voyage to North America . . . also a Description and Natural History of the Islands in the West Indies* (Dublin, 1766), 2:291; Rodney to Philip Stephens, December 10, 1780, *Letter-Books,* 1:92; *Jeaffreson Papers,* 1:275–77; Representation of General Assembly of Barbados to the Council of Trade and Plantations, August 27, 1731, *CSPC,* 245; Francis Le Jau, January 22, 1714, quoted in Ludlum, *Early American Hurricanes,* 43.

40. Jack Greene, "Changing Identity in the British West Indies in the Early Modern Period: Barbados as a Case Study," in Greene, *Imperatives, Behaviors, and Identities,* 13–67, esp. 29; Roderick Nash, *Wilderness and the American Mind,* 4th ed. (New Haven, 2001), 8–43; C. H. Firth, ed., *The Narrative of General Venables, with an Appendix of Papers relating to the Expedition to the West Indies and the Conquest of Jamaica, 1654–55* (London, 1900), 169.

41. Patricia Seed, *Ceremonies of Possession in the European Conquest of the New World, 1492–1640* (Cambridge, 1995), 16–40; John Stilgoe, *Common Landscape of America, 1580–1845* (New Haven, CT, 1982), 65; V. T. Harlow, ed., *Colonising Expeditions to the West Indies and Guiana, 1623–1667,* Publications of the Hakluyt Society, ser. 2, (London, 1925), 56:2, 39–40; John Winthrop, "Reasons to Be Considered for Justifying the Undertakers of the Intended Plantation in New England" (1629), reprinted in Peter Mancall, ed., *Envisioning America: English Plans for the Colonization of North America, 1580–1640* (Boston, 1995), 137. On houses, fences, planting, and theories of ownership, see also William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York, 1983), 55–81, 127–56.

42. "Voyage to Guinea, Antego, . . . and Barbadoes," 1716, Additional Manuscripts 39946, fol. 27, British Library; George Welch, "A Journal of my Voyage with ye Sundry

passages thereof as I travel'd into divers parts of the West Indies, 1671," 77–78, manuscript APS. For other examples, see Greene, "Changing Identity," 13–67.

43. Griffith Hughes, *Natural History of Barbados* (London, 1750), 3; Kitchin, *Present State of the West Indies,* 54, 65; for Carolina, see Chaplin, "Climate and Southern Pessimism," 70; Richard Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600–1860* (Cambridge, 1995), particularly 264–308; John Oldmixon, *The British Empire in America* (London, 1708), 2:102; Hughes, *Natural History of Barbados,* 29.

44. Edward Long, *The History of Jamaica* (London, 1774), 3:627; Patrick Browne, *The Civil and Natural History of Jamaica* (London, 1756), 288; Grove, *Green Imperialism,* 301–2; Timothy Silver, *New Face on the Countryside: Indians, Colonists, and Slaves in South Atlantic Forests* (Cambridge, 1990), 115.

45. Bryan Edwards, *The History, Civil and Commercial, of the British Colonies in the West Indies* (Dublin, 1793; reprint, 1972), 1:406; Governor William Lord Willoughby to the King, February 11, 1668, *CSPC,* 547; Edward Littleton, *The Groans of the Plantations* (London, 1698), 17.

46. Biet, *Voyage de la France Equinoxiale en l'isle de Cayenne,* 288; Letter to the Lords Proprietors, c. 1686, reprinted in Ludlum, *Early American Hurricanes,* 41–42; Rochefort, *History of the Caribby-Islands,* 144; Kitchin, *Present State of the West Indies,* 8; An American, *American Husbandry: Containing an Account of the Soil, Climate, Production and Agriculture of the British Colonies* (London, 1775), 2:114; Bohun, *Origine and Properties of Wind,* 280–81.

47. *Kingston Gazette,* October 8, 1780, reprinted in Fowler, *General Account of the Calamities,* 15; William Dickson, *The Mitigation of Slavery in Two Parts* (London, 1814; reprint, 1970), 362–63; Payne to Lord Hillsborough, September 18, 1772, CO 152/52/111; Payne to Hillsborough, September 5, 1772, CO 152/52/102; John Poyer, *A History of Barbados* (London, 1808; reprint, 1971), 451; see also Mr. Estwick to Mr. Popple, November 18, 1707, *CSPC,* 603–4.

48. *Jeaffreson Papers*, 1:277; Gov. Nicholas Lawes to the Council of Trade and Plantations, September 20, 1722, *CSPC,* 144; Alexander Hamilton to the *Royal Danish American Gazette,* September 6, 1772, in Hamilton, *Writings,* 6; Thistlewood Diaries, December 31, 1780; John Vaughan to War Office, November 2, 1780, CO 5/238/134–35. For an interesting discussion of clothing and colonists' fear of nakedness, see Jill Lepore, *The Name of War: King Philip's War and the Origins of American Identity* (New York, 1998), 79–83.

49. For examples, see Rochefort, *History of the Caribby-Islands,* 144–46; "Senhouse Manuscript," *JBMHS* 2 (August 1935): 205–8; Oldmixon, *British Empire in America,* 2:38.

50. Lepore, *Name of War,* 71–96.

51. Oldmixon, *British Empire in America,* 2:36; Sir Ralph Payne to the Earl of Hillsborough, September 5, 1772, CO 152/52/101.

52. Marsden, *Account of the Island of Jamaica,* 44; Charlevoix, *Voyage to North America,* 2:291; Leslie, *New and Exact Account of Jamaica,* 42; Beckford, *Descriptive Account of Jamaica,* 1:110. For examples of the hurricanes and uncertainty, see Governor Hamilton to the Council of Trade and Plantations, August 26, 1717, *CSPC,* 13; Governor Hart to the Council of Trade and Plantations, July 12, 1724, *CSPC,* 145; Henry Laurens to Reynolds, Getly & Co., September 21, 1772, *Laurens Papers,* 8:466; Laurens to Mathias Holme, August 24, 1764, *Laurens Papers,* 4:376.

53. Jonathan Atkins to Lords of Trade and Plantations, October 18, 1677, *CSPC,* 160–61.

## TWO: "A Conspiracy of the Winds"

1. Bohun, *Origine and Properties of Wind,* 302.

2. John Taylor, *Newes and Strange Newes from St. Christophers of a tempestuous Spirit, which is called by the Indians a Hurry-Cano or whirlewind* (London, 1638); Pane quoted in Antonio Stevens-Arroyo, *Cave of the Jagua: The Mythological World of the Tainos* (Albuquerque, NM, 1988), 234; Ovideo quoted in Louis Perez, *Winds of Change: Hurricanes and the Transformation of Nineteenth-Century Cuba* (Chapel Hill, NC, 2001), 17–18; On Taino and Carib religion generally, see Samuel Wilson, ed., *The Indigenous Peoples of the Caribbean* (Gainesville, FL, 1997); Philip Boucher, *Cannibal Encounters: Europeans and the Island Caribs, 1492–1763* (Baltimore, 1992).

3. Rochefort, *History of the Caribby-Islands,* 290, 250; Inga Clendinnen, *Ambivalent Conquests: Maya and Spaniard in the Yucatán, 1517–1570* (Cambridge, 1987), 181.

4. Thomas Beard, *The Theater of God's Judgments* (London, 1597); Increase Mather, *An Essay for the Recording of Illustrious Providences* (Boston, 1684; reprint, Delmar, NY, 1977), preface; William Corbin, *A Sermon Preached at Kings Town in Jamaica Upon the 7th of June being the Anniversary Fast for that Dreadful Earth-quake which happened there in the Year 1692* (New York, 1703), 4–7. On providentialism and the culture of wonders generally in England and colonial America, see Alexandra Walsham, *Providence in Early Modern England* (Oxford, 1999); David Hall, *Worlds of Wonder, Days of Judgment: Popular Religious Belief in Early New England* (Cambridge, MA, 1989), 71–116; Michael Winship, *Seers of God: Puritan Providentialism in the Restoration and Early Enlightenment* (Baltimore, 1996); Lorraine Daston and Katherine Park, *Wonders and the Order of Nature, 1150–1750* (New York, 1998); Keith Thomas, *Religion and the Decline of Magic* (London, 1971); Edward Bond, "Source of Knowledge, Source of Power: The Supernatural World of English Virginia," *Virginia Magazine of History and Biography* 2 (2000): 105–38; Peter Eisenstadt, "The Weather and Weather Forecasting in Colonial America" (Ph.D. diss., New York University, 1990), 13–62.

5. On distinctions in definition, see Blair Worden, "Providence and Politics in Cromwellian England," *Past and Present* 109 (November 1985): 55–99; Winship, *Seers of God,* 9–28; Walsham, *Providence in Early Modern England,* 8–20, "visible sermons" quotation on 116.

6. *The last terrible Tempestious Windes and Weather* (London, 1613); *The Wonders of this Windie Winter* (London, 1613), 5–6; *The Full and True Relation of a Dreadful Storm or Tempest* (London, 1680), 3–4; Increase Mather, *A Discourse concerning Earthquakes, Occasioned by the Earthquakes Which Were in New England . . . June 22, 1705* (Boston, 1706), 8; Walsham, *Providence in Early Modern England,* 130–35; Maxine Van de Wetering, "Moralizing in Puritan Natural Science: Mysteriousness in Earthquake Sermons," *Journal of the History of Ideas* 43 (July–September 1982): 417–38.

7. Taylor, *Newes and Strange Newes,* 1–2. For an analysis of Taylor's pamphlet, see Peter Hulme, *Colonial Encounters: Europe and the Native Caribbean, 1492–1797* (London, 1986), 97–101.

8. Taylor, *Newes and Strange Newes,* 2–4; "Captain Langford's Observations of his own Experience upon Hurricanes, and their Prognosticks," *Philosophical Transactions of the Royal Society* 20 (1698): 407.

9. Taylor, *Newes and Strange Newes,* 2, 10–11; William Strachey, *A True Reportory of the Wracke and Redemption of Sir Thomas Gates,* reprinted in Louis Wright, ed., *A Voyage to Virginia in 1609* (Charlottesville, VA, 1964), 16.

10. *Strange Newes from Virginia, being a True Relation of a Great Tempest in Virginia* (London, 1667); Sophia Hume, *An Epistle to the Inhabitants of South Carolina* (London, 1754), 5–6.

11. C. J. Kitching, "'Prayers Fit for the Time': Fasting and Prayer in Response to National Crisis in the Reign of Elizabeth I," in *Monks, Hermits and the Ascetic Tradition,* ed. W. J. Sheils (Oxford, 1985), 241–50; Christopher Durston, "'For the Better Humiliation of the People': Public Days of Fasting and Thanksgiving during the English Revolution," *Seventeenth Century* 7 (Autumn 1992): 129–49; Roland Bartel, "The Story of Public Fast Days in England," *Anglican Theological Review* 37 (1955): 190–200; Hall, *Worlds of Wonder,* 169–72; Walsham, *Providence in Early Modern England,* 142–50; Minutes of the Council of Barbados, May 17, 1671, *CSPC,* 219; Journal of the Assembly of Barbados, January 23, 1679, *CSPC,* 317–18; Journal of Council and Assembly of Antigua, October 10, 1683, *CSPC,* 516; Journal of Council and Assembly of Antigua, October 10, 1682, *CSPC,* 310; Thomas Lynch to Sec. Lord Arlington, June 7, 1671, *CSPC,* 223.

12. Hall, *Worlds of Wonder,* 169–72; Walsham, *Providence in Early Modern England,* 142–50.

13. Such themes were especially prominent in the wake of the great disaster of the seventeenth-century Caribbean, the Port Royal earthquake in June 1692. See *A Full Account of the Late Dreadful Earthquake in Jamaica* (London, 1693); *The Truest and Largest Account of the Late Earthquake at Port Royal, by a Reverend Divine* (London, 1693); Thomas Doolittle, *Earthquakes Explained and Practically Improved* (Boston, 1693); Robert Fleming, *A Discourse of Earthquakes as they are Supernatural and Premonitory Signs to a Nation; with respect to what has occurred in this year, 1692* (London, 1693).

14. *Strange Newes from Virginia.*

15. Thomas, *Religion and the Decline of Magic,* 335–458; Richard Godbeer, *The Devil's Dominion: Magic and Religion in Early New England* (Cambridge, 1992), 121–52; Hall, *Worlds of Wonder,* 58–60, 76; Jon Butler, "Magic, Astrology, and the Early American Religious Heritage, 1600–1760," *American Historical Review* 84 (April 1979): 317–46.

16. John Gadbury, *The West-India, or Jamaica Almanack for the Year 1675* (London, 1675); John Taylor, "Multum in Parvo or Parvum in Multo: Taylor's Historie of His Life and Travells in America," 2:315–16, manuscript in the National Library at Jamaica, Kingston; Fleming, *Discourse of Earthquakes,* 104.

17. Taylor, *Newes and Strange Newes,* 4–5; Letter from Governor Tyron to Lord Hillsborough, September 15, 1769, reprinted in Ludlum, *Early American Hurricanes,* 48–49.

18. Steven Shapin, *The Scientific Revolution* (Chicago, 1996), 30–37, 135–55, Bacon quoted on 139.

19. Aristotle, *Meteorologica,* ed. H. D. P. Lee (Cambridge, MA, 1952), 163–93, 233–37; Vladimir Jankovic, *Reading the Skies: A Cultural History of English Weather, 1620–1820* (Chicago, 2000), 16–22.

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21. "Inquiries Recommended to Colonel Linch going to Jamaica," December 16, 1670, quoted in Raymond Stearns, *Science in the British Colonies of America* (Urbana, IL, 1970), 699–701. See also "Further Inquiries for the West Indies," n.d., Papers of the Royal Society, reel 1, microfilm copy at the APS; "Enquiries and Directions for the . . . Caribbe-Islands," *Philosophical Transactions of the Royal Society* 3 (1668): 639; William Dampier, *Voyages and Descriptions* (London, 1700), 71–72. On the emergence of new techniques for creating and reporting facts, see Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago, 1994); Barbara Shapiro, *A Culture of Fact: England 1550–1720* (Ithaca, NY, 2000).

22. Taylor, "Multum in Parvo or Parvum in Multo," 2:308–11; Aristotle, *Meteorlogica,* 177.

23. Bohun, *Origine and Properties of Wind,* preface; "Captain Langford's Observations," 407. For a discussion of the paradox of simultaneous challenges to, and continuing use, of Aristotelian ideas about climate in a broader context, see Karen Kupperman, "The Puzzle of the Early American Climate in the Early Colonial Period," *American Historical Review* 87 (1982): 1262–89.

24. "Captain Langford's Observations," 412–14; Bohun, *Origine and Properties of Wind,* 266–67. On Jamaica, see Thomas Trapham, *A Discourse on the State of Health in the Island of Jamaica* (London, 1679), 18–19; on the continued relevance of older beliefs, see Jankovic, *Reading the Skies,* 22–32.

25. Franklin's ideas were based on his observations regarding an October 1743 storm, but he did not publish them until 1749–50. Benjamin Franklin to Jared Eliot, February 13, 1750, in Leonard Labaree and Whitfield Bell, eds., *The Papers of Benjamin Franklin* (New Haven, CT, 1961), 3:463–67. Rochefort, *History of the Caribby-Islands,* 143; *Jeaffreson Papers,* 1:276.

26. Edward Long, *The History of Jamaica* (London, 1774), 3:620–22; Benjamin Moseley, *A Treatise on Tropical Diseases; and on the Climate of the West Indies* (London, 1787), 8–9; [Thomas Kitchin], *Present State of the West Indies* (London, 1778), 8–9; Fowler, *General Account of the Calamities,* i.

27. John Bartram, *Diary of a Journey through the Carolinas, Georgia, and Florida, 1765–66, Transactions of the American Philosophical Society* 33 (Philadelphia, 1942): 20; Mark Catesby, *The Natural History of Carolina, Florida, and the Bahama Islands* (London, 1731), xi.

28. Jankovic, *Reading the Skies,* 26–32; Bohun, *Origine and Properties of Wind,* 258–66, 299–302; Isaac Newton quoted in Henry Guerlac, "The Poet's Nitre," *Isis* 45 (September 1954): 255.

29. John Atkins, *A Voyage to Guinea, Brasil, and the West Indies* (London, 1735), 237–38.

30. Alexander Hamilton, "Account of a Hurricane," in Hamilton, *Writings,* ed. Joanne Freeman (New York, 2001), 6; Bohun, *Origine and Properties of Wind,* 299. On the importance of smells as proof for mineral explanations of storms in England, see Jankovic, *Reading the Skies,* 30–31; Long, *History of Jamaica,* 3:622–24.

31. Gilbert Blane to Dr. William Hunter, December 22, 1780, Off St. Lucia, Papers of the Royal Society, reel 9, microfilm copy, APS; William Dunbar, "Remarks of the Climate of Mississippi" (1804), reprinted in Ludlum, *Early American Hurricanes,* 65–66; William Thorton, "Some Account of Lettsom's Island—and some of its Productions, in a Letter to John Coakley Lettsom, M.D., F.R.S., December 5, 1795," William Thorton Papers, Library of Congress, 14:26–27. My thanks to Phil Morgan for this citation.

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33. Edwards, *History of the British West Indies,* 1:9–10; Minutes of the Council of St. Christopher, July 17, 1683, *CSPC,* 455. The entry does not specifically note that the fasts were called in response to hurricanes, but given the dates, it seems likely this was the reason. "Account of the Church in Nevis," in Oliver, *Caribbeana,* 3:322; *Pennsylvania Gazette,* December 14, 1791.

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38. Hans Sloane, *A Voyage to the Islands of Maderia, Barbadoes, Nieves, S. Christophers and Jamaica* (London, 1707), 1:xliv; *Full Account of the Late Dreadful Earthquake in Jamaica;* Thistlewood quoted in Michael Chenoweth, *The Eighteenth-Century Climate of Jamaica, Derived from the Journals of Thomas Thistlewood, 1750–1786, Transactions of the American Philosophical Society* 93 (2003): 42.

39. Mr. Estwick to Mr. Popple, November 18, 1707, *CSPC,* 603–4; Governor Jonathan Atkins to Sir Joseph Williamson, November 3, 1674, *CSPC,* 595; Henry Grenville to George Grenville, September 27, 1751, Stowe-Grenville Manuscripts, box 25, folder 33, Huntington Library, San Marino, California. On the celebration of military victories, see thanksgiving-day announcements, August 5, 1692, *CSPC,* 680; February 1, 1703, *CSPC,* 170.

40. Taylor, *Newes and Strange Newes,* 5, 9; "Captain Langford's Observations," 407.

41. "Captain Langford's Observations," 409–10; Rochefort, *History of the Caribby-Islands,* 144.

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47. [George Lewis Scott], *A Supplement to Mr. Chambers's Cyclopaedia, or Universal Dictionary of Arts and Sciences,* 7th ed. (London, 1753); P. Touch, *A Thanksgiving Sermon Preached at St. Lucia, the Sunday after the Hurricane in October, 1780, on board HMS "Vengeance"* (London, 1784), 12–13; Leslie, *New and Exact Account of Jamaica,* 323; Thistlewood Diaries, October 9, 1780. On tornadoes, see Atkins, *Voyage to Guinea, Brasil, and the West Indies,* 147; Joseph Corry, *Observations upon the Windward Coast of Africa* (London, 1807), 37, quoted in Peter Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* (New York, 1974), 60.

48. [John Stewart], *An Account of Jamaica and Its Inhabitants, by a Gentleman, Long Resident in the West Indies* (London, 1808), 33.

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50. *South Carolina Gazette,* September 19, 1752; "Senhouse Manuscript," *JBMHS* 2 (August 1935): 205; *Barbados Mercury,* October 28, 1780, CO 28/37/214; *St. James Chronicle,* January 2, 1781.

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53. *Weekly Jamaica Courant,* September 12, 1722, CO 137/14/175–77; Charlevoix, *Voyage to North America,* 2:335; William Thorton, "Some Account of Lettsom's Island," 32. On the argument from design, see Shapin, *Scientific Revolution,* 142–55.

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55. Joyce Chaplin, "Mark Catesby, A Skeptical Newtonian in America," in *Empire's Nature: Mark Catesby's New World Vision,* ed. Amy Myers and Margaret Pritchard (Chapel Hill, NC, 1998), 34–90; Long, *History of Jamaica,* 3:619, iv.

56. Joseph Addison, *The Spectator,* no. 489, September 20, 1712, reprinted in Andrew Ashfield and Peter de Bolla, eds., *The Sublime: A Reader in British Eighteenth Century Aesthetic Theory* (Cambridge, 1996), 69. On the relation between the sublime and Enlightenment reason, see Daston and Park, *Wonders and the Order of Nature,* 362–63.

57. Edmund Burke quoted in Ashfield and de Bolla, *The Sublime: A Reader,* 131.

58. "Account of a Hurricane," *Scots Magazine* (Edinburgh) 13 (November 1751): 543–45; Hamilton, "Account of a Hurricane," 6–9.

59. William Beckford, *A Descriptive Account of the Island of Jamaica* (London, 1790), 1: 98–113, 136; John Stewart, *A View of the Past and Present State of the Island of Jamaica* (Edinburgh, 1823), 44–45.

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61. Marjorie Hope Nicholson, *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite* (New York, 1963), esp. 336–41; Keith Thomas, *Man and the Natural World: A History of the Modern Sensibility* (New York, 1983), 260–69; Roderick Frazier Nash, *Wilderness and the American Mind,* 4th ed. (New Haven, CT, 2001), 44–66.

62. Herbert Leventhal, *In the Shadow of the Enlightenment: Occultism and Renaissance Science in Eighteenth Century America* (New York, 1976); Butler, "Magic, Astrology, and the Early American Religious Heritage," 317–46; Douglas Winiarski, "'Pale Blewish Lights' and a Dead Man's Groan: Tales of the Supernatural from Eighteenth-Century Plymouth, Massachusetts," *William and Mary Quarterly* 55 (October 1998): 497–530; Sara Gronim, "At the Sign of Newton's Head: Astrology and Cosmology in British Colonial New York," *Explorations in Early American Culture* 66 (1999): 55–85; Kathleen Murphy, "Prodigies and Portents: Providentialism in the Eighteenth-Century Chesapeake" *Maryland Historical Magazine* 97 (Winter 2002): 397–421; Jankovic, *Reading the Skies,* 56–64.

63. See Sara Errington, "Wonders and the Creation of an Evangelical Culture in New England, 1720–1820" (Ph.D. diss., Brown University, 2000), 71–129.

64. See Kenneth Minkema, ed., "The Lynn Earthquake Relations of 1727," *New England Quarterly* 69 (September 1996): 473–99; Errington, "Wonders and the Creation of an Evangelical Culture in New England," 21–51; Winship, *Seers of God,* 49–52. A 1750 earthquake in London resulted in numerous sermons and pamphlets arguing for either providential or mechanical explanations of the calamity: *Some Considerations on the Causes of Earthquakes* (London, 1750).

## THREE: Weathering the Storms

1. Laurens to Reynolds, Getly & Co., September 21, 1772, *Laurens Papers,* 8:466; Laurens to Reynolds, Getly & Co., November 18, 1773, in *Laurens Papers,* 9:149–50; Laurens to Mathias Holme, August 24, 1764, in *Laurens Papers,* 4:376; Laurens to Devonsheir and Reeve, September 12, 1764, in *Laurens Papers,* 4:419. For similar sentiments from a South Carolina merchant, see John Guerard to Thomas Rock, July 30, 1753, Guerard Letterbook, South Carolina Historical Society (hereafter cited as SCHS).

2. William Belgrove, *A Treatise upon Husbandry or Planting* (Boston, 1755), 45; William Beckford, *A Descriptive Account of the Island of Jamaica* (London, 1790), 2:11; Mumbee Goulburn quoted in David Ryden, "Producing a Peculiar Commodity: Jamaican Sugar Production, Slave Life, and Planter Profits on the Eve of Abolition, 1750–1807" (Ph.D. diss., University of Minnesota, 1999), 195–96; Edmund Burke, *An Account of the European Settlements in America,* 6th ed. (London, 1777), 2:106. On the general issue of risk and plantation management, see Douglass Hall, "Incalculability as a Feature of Sugar Production during the Eighteenth Century," *Social and Economic Studies* 10 (1961): 340–52. On the wealth of sugar and rice planters, see John McCusker and Russell Menard, *The Economy of British America, 1607–1789,* 2nd ed. (Chapel Hill, NC, 1991), 144–88, and Trevor Burnard, "'Prodigious Riches': The Wealth of Jamaica Before the American Revolution," *Economic History Review* 54 (2001): 506–24.

3. Pierre François Charlevoix, *A Voyage to North America . . . also a Description and Natural History of the Islands in the West Indies* (Dublin, 1766), 2:291.

4. Philip Barbour, ed., *The Complete Works of Captain John Smith, 1580–1632* (Chapel Hill, NC, 1986), 3:228–29; "To the Lords Proprietors," reprinted in Ludlum, *Early American Hurricanes,* 41–42.

5. David Ryden, "'One of the Fertilest Pleasentest Spotts': An Analysis of the Slave Economy of Jamaica's St. Andrews Parish, 1753," *Slavery and Abolition* 21 (April 2000): 40–41; McCusker and Menard, *Economy of British America,* 174.

6. Richard Dunn, *Sugar and Slaves: The Rise of the Planter Class in the English West Indies, 1624–1713* (Chapel Hill, NC, 1972), 188–201; Richard Sheridan, *Sugar and Slavery: The Economic History of the British West Indies, 1623–1775* (Kingston, Jamaica, 1974), 107–18; J. R. Ward, *British West Indian Slavery, 1750–1834: The Process of Amelioration* (Oxford, 1988), 61–118.

7. Dalby Thomas, *An Historical Account of the Rise and Growth of the West-India Collonies* (London, 1690), and Edward Long, *History of Jamaica* (London, 1774), both quoted in Sheridan, *Sugar and Slavery,* 264–65. On sugar production, see Dunn, *Sugar and Slaves,* 188–223; on profits, see J. R. Ward, "The Profitability of Sugar Planting in the British West Indies, 1650–1834," *Economic History Review* 31 (May 1978): 197–213.

8. James Glen, *A Description of South Carolina* (London, 1761), reprinted in Chapman Milling, ed., *Colonial South Carolina: Two Contemporary Descriptions* (Columbia, 1951), 95.

9. Philip Morgan, *Slave Counterpoint: Black Culture in the Eighteenth Century Chesapeake and Lowcountry* (Chapel Hill, NC, 1998), 146–59; Judith Carney, *Black Rice: The African Origins of Rice Cultivation in the Americas* (Cambridge, MA, 2001), 107–41; Joyce Chaplin, *An Anxious Pursuit: Agricultural Innovation and Modernity in the Lower South, 1730–1815* (Chapel Hill, NC, 1993), 227–76, production statistics quoted on 247; Mart Stewart, *"What Nature Suffers to Groe": Life, Labor, and Landscape on the Georgia Coast, 1680–1920* (Athens, GA, 1996), 87–150; Sam Hilliard, "The Tidewater Rice Plantation: An Ingenious Adaptation to Nature," in *Geoscience and Man,* vol. 12, *Coastal Resources,* ed. H. J. Walker (Baton Rouge, LA, 1975), 57–66; S. Max Edelson, "Planting the Lowcountry: Agricultural Enterprise and Economic Experience in the Lower South, 1695–1785" (Ph.D. diss., Johns Hopkins University, 1998), 203–37.

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11. David Doar, *Rice and Rice Planting in the South Carolina Low Country* (Charleston, SC, 1970), 8; Morgan, *Slave Counterpoint,* 35–37; Russell Menard, "Slavery, Economic Growth, and Revolutionary Ideology in the South Carolina Lowcountry," in *The Economy of Early America: The Revolutionary Period, 1763–1790,* ed. Ronald Hoffman et al. (Charlottesville, VA, 1988), 244–74. On the increasing vulnerability, see Stewart, *"What Nature Suffers to Groe,"* 138–50.

12. Charlevoix, *Voyage to North America,* 2:291; John Stewart, *A View of the Past and Present State of the Island of Jamaica* (Edinburgh, 1823; reprint, 1969), 44; Beckford, *Descriptive Account of Jamaica,* 1:130.

13. Governor Nicholson to the Duke of Newcastle, August 25, 1724, *CSPC,* 214; Laurens to Henry Bright & Co., September 21, 1769, *Laurens Papers,* 6:140; Roswell King quoted in Stewart, *"What Nature Suffers to Groe,"* 138; John Guerard to William Jolliffe, December 29, 1752, Guerard Letterbook, SCHS; Chaplin, *Anxious Pursuit,* 240–42.

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15. Gov. Sir Jonathan Atkins to Sec. Sir Joseph Williamson, October 13, 1675, *CSPC,* 294–95; James Knight, "The Natural, Morall, and Political History of Jamaica," 1:198, Additional Manuscripts 12418, British Library; Ludlum, *Early American Hurricanes,* 43–44; *South Carolina Gazette,* September 19, 1752; Guerard to Thomas Rock, December 12, 1752; Guerard to William Jolliffe, October 21, 1752, Guerard Letterbook, SCHS; Minutes of the Vestry of St. Michael's, March 30, 1781, Barbados Archives, Black Rock.

16. *Weekly Jamaica Courant,* September 12, 1722, in CO 137/14/175–77; Laurens to Smith and Clifton, July 17, 1755, in *Laurens Papers,* 1:295.

17. "Answers to the Inquiries sent to Colonel Stapleton, Governor of the Leeward Islands," November 22, 1676, *CSPC,* 501; "Col. Jory to the Council of Trade and Plantations," October 13, 1701, *CSPC,* 573–74; for similar issues in Jamaica, see "Council of Trade and Plantations to the King," April 29, 1715, *CSPC,* 159–60; *The Groans of Jamaica* (1714), excerpts in Oliver, *Caribbeana,* 3:140–41.

18. Export figures are from John McCusker, *Rum and the American Revolution: The Rum Trade and the Balance of Payments of the Thirteen Continental Colonies* (New York, 1989), 905–19; Trelawny to the Duke of Newcastle, Nov. 4, 1744, CO 137/57/229. Account of sugar imported to England is found in *Proceedings of the Honourable House of*

*Assembly of Jamaica on the Sugar and Slave Trade* (St. Jago de Vega, Jamaica, 1792), app. 1. These numbers show a decline of over 300,000 hundredweight, but they are aggregate figures for all the colonies. For Barbados rum exports, see "Account of Rum Exported from the Port of Bridgetown, Dec. 1784," CO 28/60/181.

19. *Historical Statistics of the United States, from Colonial Times to 1970* (Washington, DC, 1975), 2:1192. See also R. C. Nash, "Trade and Business in Eighteenth-Century South Carolina: The Career of John Guerard, Merchant and Planter," *South Carolina Historical Magazine* 96 (1995): 6–29. On the destruction of trees and naval stores production, see John Guerard to Thomas Rock, September 20, 1752, and Guerard to William Jolliffe, October 21, 1752, Guerard Letterbook, SCHS; *South Carolina Gazette,* October 10, 1752.

20. McCusker, *Rum and the American Revolution,* 906, 910, 912; *Historical Statistics,* 2:1192; Ludlum, *Early American Hurricanes,* 44.

21. Tullideph quoted in Sheridan, *Sugar and Slavery,* 439. On London sugar prices, see Richard Pares, "The London Sugar Market, 1740–1769," *Economic History Review* 9 (1956): 254–70, esp. 266; John Guerard to Thomas Rock, November 6, 1752, Guerard Letterbook, SCHS. For rice prices, see Peter Coclanis, *Shadow of a Dream: Economic Life and Death in the South Carolina Lowcountry, 1670–1920* (New York, 1989), 106.

22. John Guerard to Thomas Rock, February 3, 1753, Guerard Letterbook, SCHS; Pares, "London Sugar Market," 264.

23. Robert Pringle to Andrew Pringle, January 21, 1744, in Walter Edgar, ed., *The Letterbook of Robert Pringle* (Columbia, SC, 1972), 2:635; Pares, "London Sugar Market," 254–70.

24. Letter from Philip Glebe, May 25, 1781, Records of the Society for the Propagation of the Gospel, X ser., vol. 33 (Attorney's Minutes), Rhodes House Library, Oxford University; Henry Blake to John Blake, November, 1, 1675, in Oliver, *Caribbeana,* 1:56–57; "Petition of the Vestry of the Parish of Kingston," January 25, 1724, CO 140/18/n.p; Robert Olsberg and Terry Lipscomb, eds., *Journal of the Commons House of Assembly, 1751–1752* (Columbia, SC, 1977), 14:377; Terry Lipscomb, *Journal of the Commons House of Assembly, 1752–54* (Columbia, SC, 1983), 15:125–26; Guerard to Harmington and Stritch, April 12, 1753, Guerard Letterbook, SCHS; Josiah Smith Jr. to George Austin, January 30, 1773, quoted in Edelson, "Planting the Lowcountry," 406–7.

25. Mr. Estwick to Mr. Popple, November 18, 1707, *CSPC,* 603–4; Governor Parke to the Council of Trade and Plantations, October 8, 1707, *CSPC,* 558.

26. *Barbados Mercury,* October 28, 1780; "Official Account of the Losses in Barbados from the 1780 Hurricane," reprinted in Sheila Lambert, ed., *House of Commons Sessional Papers of the Eighteenth Century: Report of the Lords of Trade on the Slave Trade, 1789* (Wilmington, DE, 1975), 69:296. To convert local currencies to pounds sterling, see John McCusker, *Money and Exchange in Europe and America, 1600–1775* (Chapel Hill, NC, 1978).

27. I am unable to account for the discrepancy between the total losses listed in this document and the total listed on the official report.

28. "Return of the Losses in the Parish of St. George by the late Hurricane on the 10th day of October, 1780," RB 9/3/9, Barbados Archive, Black Rock, St. Michaels. The enumerator made several small mistakes, which appear when the numbers are recalculated. For example, in the entry for John French, he reported the loss of forty-five cattle (£300) plus housing and other buildings (£1,500) but entered the total loss as £1,845. The analysis in the text is based on my calculations. A few individuals with the

same name appear. I have treated them as separate claims. Likewise, it appears that a few husbands and wives entered separate claims, and I have treated them as separate.

29. Gill to FitzHerbert, April 23, 1781, FitzHerbert Papers, D 239, M/E 20775; "State of Buildings," January 12, 1781, FitzHerbert Papers, M/E 20756.

30. "Estimate of the Losses," FitzHerbert Papers, M/E 20755; "January 12, 1781 Condition of Plantation Land," M/E 20775; Gill to FitzHerbert, April 23, 1781, M/E 20775.

31. "State of Buildings," January 12, 1781, FitzHerbert Papers, M/E 20756; Richard Gill to William FitzHerbert, April 23, 1781, FitzHerbert Papers, M/E 20775.

32. Richard Gill to William FitzHerbert, April 23, 1781, FitzHerbert Papers, M/E 20775.

33. Senhouse purchased the Grove plantation from the estate of his father-in-law for £18,500 (or £14,230 sterling). "Senhouse Manuscript," *JBMHS* 2 (May 1935): 115–34, quotation on 130; on the infestation of sugar ants, see Robert Schomburgk, *The History of Barbados, Comprising a Geographical and Statistical Description of the Island* (London, 1848; reprint, 1971), 640–43.

34. "Senhouse Manuscript," *JBMHS* 2 (August 1935): 203–7.

35. "Senhouse Manuscript," *JBMHS* 2 (August 1935): 208–9; *JBMHS* 3 (February 1936): 90.

36. Samuel Martin, *An Essay on Plantership, Humbly inscrib'd to all the Planters of the British Sugar-Colonies in America,* 2nd ed. (Antigua, 1750), 30; Richard Pares, *A West-India Fortune* (London, 1950), 114; Laurens to John Loveday, June 21, 1777, *Laurens Papers,* 11:385.

37. Sheridan, *Sugar and Slavery,* 266–69. For a detailed contemporary discussion of the costs of running a plantation in the eighteenth century, see Bryan Edwards, *The History, Civil and Commercial, of the British Colonies in the West Indies* (Dublin, 1793; reprint, 1972), 2:238–56; Beckford, *Descriptive Account of Jamaica,* 1:129–30.

38. Richard Ligon, *A True and Exact History of the Island of Barbados* (London, 1657), 117.

39. K. G. Davis, "The Origins of the Commission System in the West India Trade," *Transactions of the Royal Historical Society,* 5th ser., 2 (1952): 89–107; Sheridan, *Sugar and Slavery,* 262–305, 329–32; Richard Pares, "A London West-India Merchant House, 1740–1769," in *Essays Presented to Sir Lewis Namier,* ed. Richard Pares and Alan J. P. Taylor (1956; reprint, Freeport, NY, 1971), 75–107; Richard Pares, *Merchants and Planters* (Cambridge, 1960), 39–49; S. D. Smith, "Merchants and Planters Revisited," *Economic History Review* 55 (August 2002): 434–65. On bills of exchange, see John J. McCusker, *Money and Exchange in Europe and America, 1600–1775: A Handbook* (Chapel Hill, NC, 1978), 19–24.

40. On local credit, see Pares, *Merchants and Planters,* 47; Trevor Burnard, "'The Grand Mart of the Island': The Economic Function of Kingston Jamaica in the Mid-Eighteenth Century," in *Jamaica in Slavery and Freedom: History, Heritage, and Culture,* ed. K. Monteith and G. Richards (Kingston, Jamaica, 2002), 225–41. On local interest rates, see Long, *History of Jamaica,* 1:548. On trading relationships with North America, see Marc Engel, "The Changing Structure of Philadelphia's Trade with the British West Indies, 1750–1775," *Pennsylvania Magazine of History and Biography* 99 (April 1975): 156–79.

41. R. C. Nash, "The Organization of Trade and Finance in the Atlantic Economy: Britain and South Carolina, 1670–1775," in *Money, Trade, and Power: The Evolution of South Carolina's Plantation Landscape,* ed. Jack Greene et al. (Columbia, SC, 2001),

75–107, quotation on 93; Russell Menard, "Financing the Lowcountry Export Boom: Capital and Growth in Early South Carolina," *William and Mary Quarterly* 51 (October 1994): 659–76.

42. Quoted in David Watts, *The West Indies: Patterns of Development, Culture, and Environmental Change* (Cambridge, 1987), 270. On Motte, see John Guerard to William Jolliffe, October 21, 1752, Guerard Letterbook, SCHS; *Journal of the Commons House of Assembly,* 15:xi–xii; Gill to FitzHerbert, April 23, 1781, FitzHerbert Papers, M/E 20775.

43. Henry Laurens to John Laurens, December 15, 1772, *Laurens Papers,* 8:502; Richard Sheridan, "The British Credit Crisis of 1772 and the American Colonies," *Journal of Economic History* 20 (June 1960): 161–86; Sheridan, *Sugar and Slavery,* 465–66; Pares, *West-India Fortune,* 83–85; *St. James Chronicle,* January 2, 1781.

44. *Thomason Tracts,* quoted in V. T. Harlow, *A History of Barbados, 1625–1685* (Oxford, 1926; reprint, 1969), 43 n. 2; Russell Menard, "Law, Credit, the Supply of Labor, and the Organization of Sugar Production in the Colonial Greater Caribbean: A Comparison of Brazil and Barbados in the Seventeenth Century," in *Transatlantic Enterprise: Essays in Early Modern Atlantic Economy Presented to Jacob Price,* ed. John McCusker and Kenneth Morgan (Cambridge, 2000), 154–63.

45. Gov. Sir Jonathan Atkins to Sec. Sir Joseph Williamson, October 13, 1675, *CSPC,* 294–95; John Oldmixon, *The British Empire in America* (London, 1708), 2:36–37; Dunn, *Sugar and Slaves,* 93–95; Sec. Sir Joseph Williamson to Lord Vaughan, December 6, 1675, *CSPC,* 311.

46. Representation of the General Assembly of Barbados to the Council of Trade and Plantations, August 27, 1731, *CSPC,* 245–46; see also Frank Pitman, *The Development of the British West Indies, 1700–1763* (New Haven, CT, 1917), 91.

47. Oldmixon, *British Empire in America,* 2:36–37; Minutes of the Barbados Assembly, CO 31/41/50; Governor Cunningham to Board of Trade, November 23, 1780, CO 28/34/208–9; John Poyer, *A History of Barbados* (London, 1808; reprint, 1971), 463–65.

48. Carl Bridenbaugh and Roberta Bridenbaugh, *No Peace Beyond the Line: The English in the Caribbean, 1624–1690* (New York, 1972), 207–14; Dunn, *Sugar and Slaves,* 110–16; Henry Brayne to Lords Proprietors of Carolina, November 20, 1670, *CSPC,* 135–36; Lords Proprietors of Carolina to Earl of Shaftsbury, November 20, 1674, *CSPC,* 620–22.

49. Bryan Edwards, *History of the British West Indies,* quoted in Lowell Ragatz, *The Fall of the Planter Class in the British Caribbean, 1763–1833: A Study in Social and Economic History* (New York, 1928; reprint, 1977), 43; Sheridan, *Sugar and Slaves,* 290–94; Pares, *Merchants and Planters,* 42–47; David Hancock, *Citizens of the World: London Merchants and the Integration of the British Atlantic Community, 1735–1785* (Cambridge, 1995), 146–49.

50. *Proceedings of the Honourable House of Assembly of Jamaica on the Sugar and Slave Trade,* app. 12, quotation on 2; Richard Sheridan, "Planter and Historian: The Career of William Beckford of Jamaica and England, 1744–1799," *Jamaican Historical Review* 4 (1964): 36–58, mortgage quotation on 56; Beckford, *Descriptive Account of Jamaica,* 1:129–30; Frank Pitman, "The Settlement and Financing of British West India Plantations in the Eighteenth Century," in *Essays in Colonial History Presented to Charles M. Andrews by His Students* (New Haven, CT, 1931), 252–83; [Peter Marsden], A Gentleman Lately Resident on a Plantation, *An Account of the Island of Jamaica* (Newcastle, Eng., 1788), 44.

51. Karl Watson, "The Pollard Letters: A Case Study in Alienation," *JBMHS* 36 (1980): 97–98; Marsden, *Account of the Island of Jamaica,* 44. The strongest recent indictment of absenteeism is by Andrew O'Shaughnessy, *An Empire Divided: The American Revolution and the British Caribbean* (Philadelphia, 2000), 5. Those who argue that absenteeism has been overemphasized include Douglas Hall, "Absentee-Proprietorship in the British West Indies to about 1850," *Jamaican Historical Review* 4 (1964): 15–31. Absenteeism was less an issue in South Carolina; nevertheless, by the 1770s at least fifty Carolinians were living in London. See Jack Greene, "Colonial South Carolina and the Caribbean Connection," in Greene, *Imperatives, Behaviors, and Identities: Essays in Early American Cultural History* (Charlottesville, VA, 1992), 84.

52. *Pennsylvania Gazette,* August 20, 1767; P. E. H. Hair et al., eds., *Barbot on Guinea: The Writings of Jean Barbot on West Africa, 1678–1712* (London, 1992), 2:748–49; Laurens to William Cowles, October 15, 1768, in *Laurens Papers,* 6:133; Laurens to Cowles, August 23, 1768, in *Laurens Papers*, 6:79. See also Ian Steele, *The English Atlantic, 1675–1740: An Exploration of Communication and Community* (Oxford, 1986), 25–26, and Kenneth Morgan, "Bristol and the Atlantic Trade in the Eighteenth Century," *English Historical Review* 107 (July 1992): 648.

53. Answer of Sir Chas. Wheler, Governor of the Leeward Islands, to the inquiries of the Council for Foreign Plantations, December 9, 1671, *CSPC,* 290; Governor Hamilton to Council of Trade and Plantations, August 26, 1717, *CSPC,* 13; *Considerations concerning the Proper Method of Carrying on the South-Sea Company's Trade to Caracas* (London, 1734?); Richard Pares, *War and Trade in the West Indies, 1739–1763* (London, 1963), 282; Robert Pringle to Henry and John Brock, June 28, 1744, in Edgar, *Letterbook of Robert Pringle,* 2:713–14; Pringle to Henry and John Brock, September 17, 1744, in Edgar, *Letterbook of Robert Pringle,* 2:735–36.

54. Pares, "London West-India Merchant House," 75–107; Ralph Davis, *The Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries* (London, 1962), 87–89; Charles Royster, *The Fabulous History of the Dismal Swamp Company: A Story of George Washington's Times* (New York, 1999), 111–15, 141–45. Richard Pares notes that London insurers were often reluctant to insure ships trading between North America and the Indies because they could not assess the seaworthiness of an individual ship. As a result, mainland merchants tended to insure one another. Pares, *Yankees and Creoles: The Trade between North America and the West Indies Before the American Revolution* (Cambridge, MA, 1956), 23–24.

55. Ward, "Profitability of Sugar Planting in the British West Indies," 197–213; Kenneth Morgan, *Bristol and the Atlantic Trade in the Eighteenth Century* (Cambridge, 1993), 201–2; Watts, *West Indies,* 266; Thomas Mure to Commissioners, September 15, 1781, in *JAJ,* 7:577.

56. Robert Pringle to Andrew Pringle, November 14, 1743, in Edgar, *Letterbook of Robert Pringle,* 2:606–7; Richard Sheridan, "Planters and Merchants: The Oliver Family of Antigua and London, 1716–1784," *Business History* 13 (July 1971): 110; see also Davis, *Rise of the English Shipping Industry,* 87–89, 377.

57. Governor Parke to the Council of Trade and Plantations, October 8, 1707, *CSPC,* 558; Governor Parke to the Council of Trade and Plantations, March 6, 1708, *CSPC,* 689–90.

58. Charlevoix, *Voyage to North America,* 2:304–5; Jean Barbot, *A Description of the Coasts of North and South Guinea,* in *Collection of Voyages and Travels,* 3rd ed., ed.

Awnsham Churchill (London, 1746), 579; also An American, *American Husbandry: Containing an Account of the Soil, Climate, Production and Agriculture of the British Colonies* (London, 1775), 2:113–14.

59. Louis Perez, *Winds of Change: Hurricanes and the Transformation of Nineteenth-Century Cuba* (Chapel Hill, NC, 2001), 83–108; *Jeaffreson Papers,* 1:322–23; Richard Sheridan, "The Crisis of Slave Subsistence in the British West Indies during and after the American Revolution," *William and Mary Quarterly* 33 (October 1976): 633–35. On cotton, see William Dickson, *Mitigation of Slavery in Two Parts* (London, 1814; reprint, 1970), 376–77; Bonham Richardson, "Catastrophes and Change on St. Vincent," *National Geographic Research* 5 (1989): 111–25. On the decline of rice planting in the lowcountry and the role of the storms, see Duncan Heyward, *Seed from Madagascar* (Columbia, SC; reprint, 1993), 221–48, and Stewart, "*What Nature Suffers to Groe,*" 236–37.

60. Pares, *West-India Fortune,* 80.

## FOUR: Chaotic and Scarce Times

1. *Jeaffreson Papers,* 1:274–80.

2. Ralph Payne to Hillsborough, September 18, 1772, CO 152/52/105.

3. Ira Berlin, *Many Thousands Gone: Two Centuries of Slave Life in North America* (Cambridge, 2000); Frank Tannenbaum, *Slave and Citizen* (New York, 1946; reprint, Boston, 1992).

4. Richard Dunn, *Sugar and Slaves: The Rise of the Planter Class in the British West Indies, 1624–1713* (Chapel Hill, NC, 1972), 87, 237; Jack Greene, "Colonial South Carolina and the Caribbean Connection," in Greene, *Imperatives, Behaviors, and Identities: Essays in Early American Cultural History* (Charlottesville, VA, 1992), 78–80; Richard Sheridan, *Sugar and Slavery: An Economic History of the British West Indies, 1623–1775* (Kingston, Jamaica, 1974; reprint, 2000), 150, 194.

5. Dunn, *Sugar and Slaves,* 155–77; Trevor Burnard, "'Prodigious Riches': The Wealth of Jamaica Before the American Revolution," *Economic History Review* 54 (2001): 506–24.

6. Peter Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* (New York, 1974), 13–34, 152; Samuel Dyssli quoted on 132; Greene, "Colonial South Carolina and the Caribbean Connection," 82.

7. Bryan Edwards quoted in Philip Morgan, "British Encounters with Africans and African Americans, circa 1600–1780," in *Strangers within the Realm: Cultural Margins of the First British Empire,* ed. Bernard Bailyn and Philip Morgan (Chapel Hill, NC, 1991), 173; Dunn, *Sugar and Slaves,* 238–46; Sally Hadden, *Slave Patrols: Law and Violence in Virginia and the Carolinas* (Cambridge, MA, 2001), 10–24; Andrew O'Shaughnessy, *An Empire Divided: The American Revolution and the British Caribbean* (Philadelphia, 2000), 34–57. On issues of social control see Hilary McD. Beckles, "Social and Political Control in the Slave Society," in *UNESCO General History of the Caribbean,* vol. 3, *The Slave Societies of the Caribbean,* ed. Franklin Knight (London, 1997), 194–221; Trevor Burnard, *Mastery, Tyranny, and Desire: Thomas Thistlewood and His Slaves in the Anglo-Jamaican World* (Chapel Hill, NC, 2004), 70–100, 137–74; Edward Long, *The History of Jamaica* (London, 1774), 2:309–10.

8. Sir Nicholas Lawes to the Council of Trade and Plantations, September 20, 1722, *CSPC,* 144; Address of the Governor and Council of Jamaica to the King, September

1722, *CSPC,* 145; Petition of the Merchants and Planters of Barbadoes to the King, May 11, 1677, *CSPC,* 83; Account of the great artillery, powder, arms, and ammunition in Barbadoes, May 18, 1677, *CSPC,* 91; Journal of the Jamaican Council, October 22, 1722, CO 140/17; Lawes to Assembly, October 1722, *JAJ,* 2:423; Governor Russell to Lords of Trade and Plantations, October 24, 1694, *CSPC,* 385; Thistlewood Diaries, October 8, 21, 1780; *Pennsylvania Gazette,* December 13, 1780; "Extract of a Letter to Sir Peter Parker, Vice Admiral, . . . from the Justices and Vestry of the Parish of Westmoreland," Thistlewood Diaries, no date, 1780, 215.

9. The President and Council of Jamaica to Lords of Trade and Plantations, June 20, 1692, *CSPC,* 651; *The Truest and Largest Account of the Late Earthquake in Jamaica* (London, 1693), 5, 11–12.

10. Major General John Vaughan to War Office, October 30, 1780, CO 5/238/133; William Beckford, *A Descriptive Account of the Island of Jamaica* (London, 1790), 1:116.

11. *South Carolina Gazette,* September 19, 1752; Beckford, *Descriptive Account of Jamaica,* 1:116; James Knight, "The Natural, Morall, and Political History of Jamaica," 1:237, Additional Manuscripts 12418, British Library.

12. Governor Russell to Lords of Trade and Plantations, October 24, 1694, *CSPC,* 385; Governor Lawes to Council of Trade and Plantations, September 20, 1722, *CSPC,* 144–45; "Extract of a Letter to Sir Peter Parker, Vice Admiral," Thistlewood Diaries, no date, 1780, 215; Vestry Minutes, Parish of Westmoreland, November 4, 1781, 2/7/1, Jamaican Archives, Spanish Town; "Account of the Hurricane," CO 28/57/209.

13. Governor James Cunningham to Lord George Germain, January 22, 1781, CO 28/58/53; Cunningham to Lord George Germain, October 20, 1780, CO 28/57/206.

14. William Dickson, *Letters on Slavery* (London, 1789), 92, 96. For a similar argument regarding South Carolina, see Glen to Lords Commissioners for Trade and Plantations, March 1752, reprinted in H. Roy Merrens, ed., *The Colonial South Carolina Scene: Contemporary Views, 1697–1774* (Columbia, SC, 1977), 182–83.

15. David Barry Gaspar, *Bondmen and Rebels: A Study of Master-Slave Relations in Antigua* (Baltimore, 1985), 221–26. A July hurricane did play some role in a 1733 rebellion in the Danish island of St. John. The destruction of food exacerbated shortages attending a drought the previous spring and summer, and the storm was followed by a plague of insects that further decimated food supplies. According to one historian, hungry slaves began a rebellion in November 1733 that lasted until the following May. The exact connection between the storm and the rebellion is not entirely clear, and food shortages, rather than general disorder, appear to have been the precipitating factor. See Waldemar Westergaard, *The Danish West Indies under Company Rule, 1671–1754* (New York, 1917), 166–76. On the problem of analyzing conspiracies and possible conspiracies, see Philip Morgan, "Conspiracy Scares," *William and Mary Quarterly* 59 (January 2002): 159–68.

16. David Watts, *The West Indies: Patterns of Development, Culture, and Environmental Change since 1492* (Cambridge, 1987), 240–53; Dunn, *Sugar and Slaves,* 117–18, 163. For South Carolina, see Robert Weir, *Colonial South Carolina: A History* (1983; reprint, Columbia, SC, 1997), 80–85, and William Ramsey, "'Something Cloudy in Their Looks': The Origins of the Yamasee War Reconsidered," *Journal of American History* 90 (June 2003): 44–75.

17. "Description of a Hurricane in South Carolina, September 6, 1713," Papers of the Royal Society, reel 1, APS; Ludlum, *Early American Hurricanes,* 43; Governor Sir

Nicholas Lawes to the Council of Trade and Plantations, September 20, 1722, *CSPC,* 144; *Weekly Jamaica Courant,* September 12, 1722, CO 137/14/176; James Glen to Secretary of State, September 19, 1752, CO 5/385/223–25; Jonathan Mercantini, "The Great Carolina Hurricane of 1752," *South Carolina Historical Magazine* 103 (October 2002): 351–65.

18. Nicholas Lawes to Assembly, October 1722, *JAJ,* 2:423; John Oldmixon, *The British Empire in America* (London, 1708), 2:36, 203; Petition of Merchants and Planters of Barbadoes to the King, May 11, 1677, *CSPC,* 83; Governor Lord Hamilton to the Council of Trade and Plantations, October 10, 1712, *CSPC,* 61–62; Oldmixon, *British Empire in America* (1741 ed.), 2:345; Trelawney to Duke of Newcastle, November 4, 1744, CO 137/57/229; Petition to the King, November 12, 1744, CO 140/31; *Pennsylvania Gazette,* February 12, 1745.

19. Representation by the Planters and Merchants of the state of the Leeward Islands, August 10, 1689, *CSPC,* 118–19; Capt. Wm. Bridall to his Father, August 15, 1666, *CSPC,* 403; Lt. General Henry Willoughby to Williamson, August 28, 1666, *CSPC,* 410; Ludlum, *Early American Hurricanes,* 41.

20. Lord George Germain to Governor Dalling, January 1781, CO 137/79/88–89.

21. *Jeaffreson Papers,* 1:277–78; "Senhouse Manuscript," *JBMHS* 2 (August 1935): 205–9.

22. *Historical Statistics of the United States, from Colonial Times to 1970* (Washington, DC, 1975), 2:1192.

23. J. R. Ward, *British West Indian Slavery, 1750–1834: The Process of Amelioration* (Oxford, 1988), 18–26, 105–18; Kenneth Kiple, *The Caribbean Slave: A Biological History* (Cambridge, 1984), 66–70; Roderick McDonald, *The Economy and Material Culture of Slaves: Goods and Chattels on Sugar Plantations in Jamaica and Louisiana* (Baton Rouge, LA, 1993), 18–28; Richard Sheridan, *Doctors and Slaves: A Medical and Demographic History of the British West Indies, 1680–1834* (Cambridge, 1985), 154–78; Philip Morgan, "Task and Gang Systems: The Organization of Labor on New World Plantations," in *Work and Labor in Early America,* ed. Stephen Innes (Chapel Hill, NC, 1988), 189–220. For slave diets in South Carolina, see Philip Morgan, *Slave Counterpoint: Black Culture in the Eighteenth-Century Chesapeake and Lowcountry* (Chapel Hill, NC, 1998), 134–43, 362. On imports specifically, see Yu Wu, "Jamaican Trade: A Quantitative Study" (Ph.D. diss., Johns Hopkins University, 1995), 547–50, and Richard Bean, "Food Imports into the British West Indies: 1680–1845," in *Comparative Perspectives on Slavery in New World Plantation Societies,* ed. Vera Rubin and Arthur Tuden (New York, 1977), 581–90.

24. Ward, *British West Indian Slavery,* 105; Gov. Sir Jonathan Atkins to Sec. Sir Joseph Williamson, October 13, 1675, *CSPC,* 294; Sir William Stapleton to Lords of Trade and Plantations, November 12, 1681, *CSPC,* 140; *Jeaffreson Papers,* 1:277–80; "Paper to the Lords Proprietor," in Ludlum, *Early American Hurricanes,* 41–42.

25. *Weekly Jamaica Courant,* September 12, 1722, CO 37/14/176; Governor Lawes to the Council of Trade and Plantations, December 10, 1722, *CSPC,* 184; Jamaican Council, Petition to the King, November 12, 1744, CO 140/31; *South Carolina Gazette,* September 19, 1752; John Guerard to Thomas Rock, September 20, 1752, in John Guerard Letterbook, South Carolina Historical Society; *Pennsylvania Gazette,* November 16, 1752.

26. Mr. Estwick to Mr. Popple, November 18, 1707, *CSPC,* 603–4; Governor Parke to the Council of Trade and Plantations, August 24, 1708, *CSPC,* 78; Terry Lipscomb, ed., *The Journal of the Commons House of Assembly, 1752–1754* (Columbia, SC, 1983), 15:125;

Mercantini, "Great Carolina Hurricane," 351–65; D. Walsh to James Scott, September 18, 1772, in Oliver, *Caribbeana,* 2:322–23; *Gentleman's Magazine,* December 1772, 590.

27. John Austin to William Helyar, August 7, 1690, quoted in Carl Bridenbaugh and Roberta Bridenbaugh, *No Peace Beyond the Line: The English in the Caribbean, 1624–1690* (New York, 1972), 188; General Sir B. Granville to the Council of Trade and Plantations, September 15, 1705, *CSPC,* 618–19; Richard Gill to William FitzHerbert, April 23, 1781, FitzHerbert Papers, M/E 20775. For damage during a lesser tropical storm, see Thistlewood Diaries, September 16, 1778, and Bryan Edwards, *The History, Civil and Commercial, of the British Colonies in the West Indies* (Dublin, 1793; reprint, 1972), 2:124. On the importance of plantain trees, see McDonald, *Economy and Material Culture of Slaves,* 23–28.

28. Clarke to Sydney, September 10, 1785, CO 137/85/189–90; Lipscomb, *Journal of the Commons House of Assembly,* 14:377, 379, 414; Lipscomb, *Journal of the Commons House of Assembly,* 15:125–27, 133–35, 155; Guerard to Jolliffe, February 19, 1753, Guerard to Harmington and Stritch, April 12, 1753, Guerard Letterbook; Payne to Hillsborough, September 18, 1772, CO 152/52/105–8; Minutes of the Assembly of Antigua, September 7, 1772, CO 9/34.

29. *Pennsylvania Gazette,* October 14, 1772; Payne to Earl of Dartmouth, December 19, 1772, CO 152/53/19–21; Josiah Smith Jr. to George Austin, January 30, 1773, quoted in S. Max Edelson, "Planting the Lowcountry: Agricultural Enterprise and Economic Experience in the Lower South, 1695–1785" (Ph.D. diss., Johns Hopkins University, 1998), 406–7.

30. *Jeaffreson Papers,* 1:277–78; "Senhouse Manuscript," *JBMHS* 2 (August 1935): 205, 208; Ward, *British West Indian Slavery,* 22–23.

31. *Jeaffreson Papers,* 1:277–79; Sir Jonathan Atkins to Sir Joseph Williamson, October 13, 1675, *CSPC,* 294–95; Oldmixon, *History of the British Empire,* 2:37; Walter Tullideph to George Thomas, May 22, 1746, in Richard Sheridan, ed., "Letters from a Sugar Plantation in Antigua, 1739–1758," *Agricultural History* 31 (July 1957): 14; Assembly Minutes, February 27, 1783, *JAJ,* 7:570.

32. Walter Tullideph to George Thomas, March 25, 1752, in Sheridan, "Letters from a Sugar Plantation in Antigua," 21; Governor Parke to the Council of Trade and Plantations, August 24, 1708, *CSPC,* 77–78.

33. O'Shaughnessy, *Empire Divided,* 138–46; Richard Sheridan, "The Crisis of Slave Subsistence in the British West Indies during and after the American Revolution," *William and Mary Quarterly* 33 (October 1976): 615–41; Burt to Lords of Trade and Plantations, March 17, 1778 CO 152/57/303–4, and Burt to Lords of Trade and Plantations, June 17, 1778, CO 152/58/192.

34. *Barbados Mercury,* October 28, 1780, enclosed in CO 28/47/214–15; "Account of the 1780 Hurricane," CO 28/57/208; Richard Schomburgk, *The History of Barbados, Comprising a Geographical and Statistical Description of the Island* (London, 1848; reprint, 1971), 47; Elliot to FitzHerbert, January 8, 1781, FitzHerbert Papers, M/E 21611; "Senhouse Manuscript," *JBMHS* 2 (August 1935): 207–8.

35. William Dickson, *The Mitigation of Slavery, in Two Parts* (London, 1814; reprint, 1969), 431–32; Sheila Lambert, ed., *House of Commons Sessional Papers of the Eighteenth Century* (Wilmington, DE), 69:296.

36. Vaughan to War Office, October 30, 1780, CO 5/238/133; "Copy of a Letter from a Planter at Barbados, dated Carlisle Bay, Nov. 4, [1780]," reprinted in Fowler, *General*

*Account of the Calamities,* 42; Richard Gill to William FitzHerbert, April 23, 1781, FitzHerbert Papers, M/E 20775; William Dwarris to Lilley Smith, July 20, 1781, reprinted in Oliver, *Caribbeana,* 5:24; "Senhouse Manuscript," *JBMHS* 3 (November 1935): 3.

37. Reports from the *Kingston Gazette* and the *Jamaica Royal Gazette* were reprinted in Fowler, *General Account of the Calamities,* 17–18, 25–28; *Annual Register,* 1780, 292–94, quoted in Sheridan, "Crisis of Slave Subsistence," 626; Thistlewood Diaries, December 31, 1780.

38. Dalling to Germain, October 20, 1780, in Fowler, *General Account of the Calamities,* 5–7; Germain to Dalling, CO 137/79/88–89; Thistlewood Diaries, October 4, October 7, November 27, November 28, 1780, and April 1, 1781; Quacoo appears to be a form of cassava. See Frederick Cassidy, *Jamaica Talk: Three Hundred Years of the English Language in Jamaica* (London, 1961), 192. Douglass Hall believes that Toyer is taya, a variety of coco root. Hall, *In Miserable Slavery: Thomas Thistlewood in Jamaica, 1750–1786* (London, 1989), 312 n. 1.

39. Thistlewood Diaries, October 3, October 4, October 7, and October 15, 1780.

40. Thistlewood Diaries, October 4, October 13, October 27, November 8 (slaves ill), November 20, December 31 (Thistlewood ill); on Toney, see Thistlewood Diaries, November 21, December 7, December 9, December 10, 1780; on the death of Mrs. Leicester's two daughters, see December 5, 1780; for deaths (slaves and whites), some of which were likely unrelated to the storm, but others of which were perhaps linked, see October 15, November 16, December 4, December 18, December 27, 1780; Petition of John Archer, Assembly Minutes, November 12, 1782, *JAJ,* 7:493; John Stewart, *An Account of Jamaica and Its Inhabitants by a Gentleman Long Resident in the West Indies* (London, 1808), 31–32. On disease generally, see Sheridan, *Doctors and Slaves,* 162, and Kiple, *Caribbean Slave,* 95.

41. Dalling to Germain, August 19, 1781, CO 138/29; Thistlewood Diaries, August 2, August 3, August 7, 1781.

42. Betty Wood and T. R. Clayton, "Slave Birth, Death and Disease on Golden Grove Plantation, Jamaica, 1765–1810," *Slavery and Abolition* 6 (September 1985): 119 n. 37, 106; Assembly Minutes, February 27, 1783, *JAJ,* 7:576, 570.

43. Letters enclosed with Clarke to Germain, August 15, 1784, CO 137/84/187–92.

44. Clarke to Sydney, September 10, 1785, CO 137/85/188–89; Clarke to Sydney, November 5, 1786, CO 137/86/142–43; Sheridan, "Crisis of Slave Subsistence," 631–32; Sheridan, *Doctors and Slaves,* 161.

45. Sheridan, "Crisis of Slave Subsistence," 615–41; Alice Keith, "Relaxations in the British Restrictions on the American Trade with the British West Indies," *Journal of Modern History* 20 (March 1948): 1–18; Herbert Bell, "British Commercial Policy in the West Indies, 1783–93," *English Historical Review* 31 (July 1916): 429–41.

46. Clarke to Assembly, October 22, 1784, CO 137/85/27; Clarke to Sydney, September 10, 1785, CO 137/85/188–89; Clarke to Assembly, December 12, CO 137/86/18.

47. Petition to the King from the Assembly and Council of Jamaica, December 23, 1784, CO 137/85/240–44; "Extract of Two Letters from Jamaica to a Gentleman in London, 1786," BT 6/76/1; Report of the Assembly of Jamaica," cited in Bryan Edwards, *The History, Civil and Commercial, of the British Colonies in the West Indies* (Dublin, 1793; reprint, 1972), 2:394–97; Edward Kamau Brathwaite, *The Development of Creole Society in Jamaica* (Oxford, 1971), 85–86.

48. Wynne quoted in Dickson, *Mitigation of Slavery,* 313–15.

49. Hector M'Neill, *Observations on the Treatment of the Negroes, in the Island of Jamaica* (London, 1788?), 39.

50. Ward, *British West Indian Slavery,* 40–41, 283; Wynne quoted in Dickson, *Mitigation of Slavery,* 313–15. The free port was ultimately extended until the end of January 1785. The Americans may also have limited shipments. An account after the 1785 storm noted that Americans would no doubt seek to aid hurricane victims in the West Indies but argued that "sound policy dictates that any supplies they can afford should be in American bottoms, as the British have for some time endeavoured to destroy the usefulness of American vessels." *Pennsylvania Gazette,* October 19, 1785.

51. M'Neill, *Observations on the Treatment of Negroes in the Island of Jamaica,* 39–40.

52. For different assessments of the effect of the storms, and food shortages more generally, during the 1770s and 1780s, see Ward, *British West Indian Slavery,* 283, and Sheridan, "Crisis of Slave Subsistence," 615–41.

53. On the importance of preexisting social structures and institutions shaping the interpretation of and response to disasters, see Anthony Oliver-Smith, "Theorizing Disasters: Nature, Power, and Culture," in *Catastrophe and Culture: The Anthropology of Disaster,* ed. Susanna Hoffman and Anthony Oliver-Smith (Santa Fe, NM, 2002), 23–47.

## FIVE: Building for Disaster

1. Leslie, *New and Exact Account of Jamaica,* 30–31; Richard Dunn, *Sugar and Slaves: The Rise of the Planter Class in the British West Indies, 1624–1713* (Chapel Hill, NC, 1972), 287–99; A. C. Acworth, *Treasure in the Caribbean: A First Study of Georgian Buildings in the British West Indies* (London, 1949); Pamela Gosner, *Caribbean Georgian: The Great and Small Houses of the West Indies* (Washington, DC, 1982); David Buisseret, *Historic Architecture of the Caribbean* (London, 1980); Jay Edwards, "The Origins of Creole Architecture," *Winterthur Portfolio* 29 (Summer–Autumn 1994): 155–89; William Chapman, "Irreconcilable Differences: Urban Residences in the Danish West Indies, 1700–1900," *Winterthur Portfolio* 30 (Summer–Autumn 1995): 129–72; James Robertson, "Jamaican Architectures Before Georgian," *Winterthur Portfolio* 36 (Spring–Summer 2001): 73–95; Carl Lounsbury, "The Dynamics of Architectural Design in Eighteenth-Century Charleston and the Lowcountry," in *Exploring Everyday Landscapes,* ed. Annmarie Adams and Sally McMurry, Perspectives in Vernacular Architecture 7 (Knoxville, TN, 1997), 58–72; Peter Coclanis, *Shadow of a Dream: Economic Life and Death in the South Carolina Lowcountry, 1670–1920* (New York, 1989), 3–11.

2. Kevin Rozario, "What Comes Down Must Go Up: Why Disasters Have Been Good for American Capitalism," in *American Disasters,* ed. Steven Biel (New York, 2001), 72–102.

3. Jack Greene, "The Search for Identity: An Interpretation of the Meaning of Selected Patterns of Social Response in Eighteenth-Century America," in Greene, *Imperatives, Behaviors, and Identities: Essays in Early American Cultural History* (Charlottesville, VA, 1992), 143–73; Edward Kamau Brathwaite, *The Development of Creole Society in Jamaica, 1770–1820* (Oxford, 1971), xiii, 296.

4. Philip Barbour, ed., *The Complete Works of Captain John Smith, 1580–1632* (Chapel Hill, NC, 1986), 3:233, 228–29; Rochefort, *History of the Caribby-Islands,* 177–78; John Taylor, *Newes and Strange Newes from St. Christophers of a tempestuous Spirit, which is called by the Indians a Hurry-Cano or whirlewind* (London, 1638), 8.

5. Carl Bridenbaugh and Roberta Bridenbaugh, *No Peace Beyond the Line: The English in the Caribbean, 1624–1690* (New York, 1972), 37; "Some Observations on the Island of Barbados," 1667, *CSPC,* 528–29; Ellwood quoted in Raymond Stearns, *Science in the British Colonies of America* (Urbana, IL, 1970), 229; Cary Carson et al., "Impermanent Architecture in the Southern America Colonies," reprinted in Robert Blair St. George, ed., *Material Life in America, 1600–1800* (Boston, 1988), 113–58; James Robertson has uncovered some sketch drawings of early houses on land surveys in Jamaica that resemble these early houses; "Jamaican Architectures Before Georgian," 73–95.

6. Douglas Hall, ed., "The Diary of a Westmoreland Planter: Thomas Thistlewood in the Vineyard," *Jamaica Journal* 21 (August–October 1988): 20–21; Dunn, *Sugar and Slaves,* 290–91; Richard Bushman, *The Refinement of America: Persons, Houses, Cities* (New York, 1992), 100–17, quotation on 103; Peter Borsay, *The English Urban Renaissance: Culture and Society in the Provincial Town, 1660–1770* (Oxford, 1989), 41–59.

7. John Taylor, "Multum in Parvo or Parvum in Multo: Taylor's Historie of His Life and Travels in America," 2:492, 509, manuscript in the National Library at Jamaica, Kingston; Hans Sloane, *A Voyage to the Islands Madeira, Barbadoes, Nieves, S. Christophers and Jamaica* (London, 1707), 1:xlvii; Governor Sir Jonathan Atkins to the Lords of Trade and Plantations, July 14, 1676, *CSPC,* 421; Neville Connell, ed., "Father Labat's Visit to Barbados in 1700," *JBMHS* 24 (1957): 163, 171; Dunn, *Sugar and Slaves,* 292–93.

8. *Jeaffreson Papers,* 1:275–76; James Knight, "The Natural, Morall, and Political History of Jamaica," 1:198, Additional Manuscripts, 12418, British Library; Griffith Hughes, *The Natural History of Barbados* (London, 1750), 26; John Oldmixon, *British Empire in America* (London, 1708), 2:38.

9. J. Atkins, *A Voyage to Guinea, Brasil, and the West Indies* (London, 1735), 239–40; Knight, "Natural, Morall, and Political History of Jamaica," 2:16; "Letter from the Inhabitants of Savanna-la-Mar to Gov. John Dalling," October 8, 1780, in Fowler, *General Account of the Calamities,* 7; Ludlum, *Early American Hurricanes,* 41–51.

10. *Weekly Jamaican Courant,* September 12, 1722, CO 137/14/175; Edward Long, *The History of Jamaica* (London, 1774), 2:18–19.

11. Dr. Peyssonnel, "Observations upon the Currents of the Sea, at the Antisles of America," *Philosophical Transactions of the Royal Society* 49 (1756): 629; Rochefort, *History of the Caribby-Islands,* 145–46; Leslie, *New and Exact Account of Jamaica,* 43; Oldmixon, *British Empire in America,* 2:235. On slave housing, see Jerome Handler and Frederick Lange, *Plantation Slavery in Barbados: An Archaeological and Historical Investigation* (Cambridge, MA, 1978), 52–53, and B. W. Higman, *Montpelier, Jamaica: A Plantation Community in Slavery and Freedom* (Kingston, Jamaica, 1998), 146–90.

12. Rochefort, *History of the Caribby-Islands,* 145–46; "Henry Whistler's Journal, March 1655," in *Narrative of General Venables,* ed. C. H. Firth (London, 1900), 168–69; Long, *History of Jamaica,* 2:19–20. Hans Sloane likewise wrote in the 1680s that most of the remaining Spanish houses on the island had grounded wooden posts as a defense against earthquakes; Sloane, *Voyage to the Islands,* 1:xliv. See also Andrew Gravette, *Architectural Heritage of the Caribbean: An A–Z of Historic Buildings* (Kingston, Jamaica, 2000), 12, and Ann Hodges, "Jamaican Traditional Building Materials and Techniques: Thatch," *Jamaica Journal* 19 (November–January 1986–87): 29.

13. Taylor, "Multum in Parvo or Parvum in Multo," 2:509–10; Long, *History of Jamaica,* 2:19–20, 3. On the continuing influence of English aesthetics, see Dunn, *Sugar and Slaves,* 287–96.

14. Rochefort, *History of the Caribby-Islands,* 177; Oldmixon, *British Empire in America,* 2:38, 87; "Records of the Vestry of St. Michael," *JBMHS* 16 (November 1948–February 1949): 59; "Answers to the Inquiries sent to Colonel Stapleton, Governor of the Leeward Islands," November 22, 1676, *CSPC,* 499.

15. "A Voyage to North America and the West Indies, 1756–57," manuscript in Elsa Goveia Reading Room in the Library of the University of the West Indies, Mona, Jamaica; Evangeline Andrews and Charles Andrews, eds., *Journal of a Lady of Quality: Being the Narrative of a Journey from Scotland to the West Indies, North Carolina, and Portugal in the Years 1774–1776* (New Haven, CT, 1922), 88; Vere Langford Oliver, *The History of the Island of Antigua* (London, 1894), 1:cxxix; map printed in Frank Cundall, *The Governors of Jamaica in the First Half of the Eighteenth Century* (London, 1937); Dunn, *Sugar and Slaves,* 299.

16. C. G. A. Oldendorp, *A Caribbean Mission: History of the Evangelical Brethren on the Caribbean Islands of St. Thomas, St. Croix, and St. John,* ed. Johan Jakob Bossard, 151, quoted in Chapman, "Irreconcilable Differences," 153–54; "Senhouse Manuscript," *JBMHS* 3 (November 1935): 13; *JBMHS* 2 (August 1935): 206; Richard Gill to William FitzHerbert, April 23, 1781, FitzHerbert Papers, M/E 20775; George Pinckard, *Notes on the West Indies* (London, 1806), 194. On roof ornamentation, see Gosner, *Caribbean Georgian,* 20–21, and Gravette, *Architectural Heritage of the Caribbean,* 112. A major finding of a 1990s study of hurricane damage in the United States was "the excellent performance of hip roofs compared to that of other types of roof systems, such as gable types"; Michele Melarango, *Severe Storm Engineering for Structural Design* (Sydney, 1996), 69–70.

17. "Senhouse Manuscript," *JBMHS* 3 (November 1935): 12–13; *JBMHS* 2 (August 1935): 206; Oldendorp, *Caribbean Mission,* quoted in Chapman, "Irreconcilable Difference," 153–54.

18. George Welch, "A Journal of my Voyage with ye Sundry passages thereof as I travel'd into divers parts of the West Indies, 1671," 80–81, manuscript, APS; [Rev. Robert Robertson], *A Short Account of the Hurricane that pass'd thro' the English Leeward Caribbee Islands* (London, 1733), 18; D. Walsh to James Scott, September 18, 1772, reprinted in Oliver, *Caribbeana,* 2:322–23; Payne to Earl of Hillsborough, September 5, 1772, CO 152/52/103. On the use of stone and brick in one wall, claim of William and Ralph Willet, CO 243/2, vol. 1, fol. 42; claim of Mary King, CO 243/2, vol. 2, fol. 432; Bridenbaugh, *No Peace Beyond the Line,* 370.

19. Sloane, *Voyage to the Islands,* 1:xliv; *An Account of the Late Dreadful Earthquake in the Island of Nevis, St. Christophers, &c., Which Happened in the Beginning of April, of This Present Year 1690* (London, 1690); William Smith, *A Natural History of Nevis* (Cambridge, 1745), 61–64.

20. *A Letter Sent from Barbados to a Friend in London . . . of the Great Earthquake at Montserrat* (London, 1672); "Answers to the Inquiries sent to Colonel Stapleton, Governor of the Leeward Islands," November 22, 1676, *CSPC,* 500; *Account of the Late Dreadful Earthquake in the Island of Nevis;* Lt. Governor Stede to Lords of Trade and Plantation, April 23, 1690, *CSPC,* 249–50; Patrick Browne, *The Civil and Natural History of Jamaica* (London, 1756), 7; Sloane, *Voyage to the Islands,* 1:xliv.

21. Knight, "Natural, Morall, and Political History of Jamaica," 2:49; Benjamin Moseley, *A Treatise on Tropical Diseases; and on the Climate of the West Indies* (London, 1787), 38; Robertson, *Short Account of the Hurricane,* 18; Acworth, *Treasure in the Caribbean,* 8; Robertson, "Jamaican Architectures before Georgian," 91–92.

22. Robertson, *Account of the Hurricane,* 18–19; Laurens to John Loveday, June 21, 1777, *Laurens Papers,* 11:385; Peyssonnel, "Observations upon the Currents of the Sea," 627; Smith, *Natural History of Nevis,* 240–42.

23. J. Harry Bennett, *Bondsmen and Bishops: Slavery and Apprenticeship on the Codrington Plantations of Barbados, 1710–1838* (Berkeley, CA, 1958), 32; Philip Gibbes to Lord Penrhyn, 1788, FitzHerbert Papers, M/E 20555 and 20777; Higman, *Montpelier, Jamaica,* 163–64; Handler and Lange, *Plantation Slavery in Barbados,* 53, 95–97; Philip Morgan, *Slave Counterpoint: Black Culture in the Eighteenth-Century Chesapeake and Lowcountry* (Chapel Hill, NC, 1998), 104–21.

24. Joseph, CO 243/2, vol. 2, fol. 277; Abbot, CO 243/2, vol. 3, fol. 646; on the "posts," see William Venton, CO 243/2, vol. 2, fol. 422, and Mary King, CO 243/2, vol. 2, fol. 432; Jean Barbot, *A Description of the Coasts of North and South Guinea,* reprinted in *Collection of Voyages and Travels,* 3rd ed., ed. Awnsham Churchill (London, 1746), 5:578.

25. Thomas Thistlewood, Diaries, September 11, 1751, July 30, 1784; Douglas Hall, *In Miserable Slavery: Thomas Thistlewood in Jamaica, 1750–86* (London, 1989), 20, 285.

26. Elias Bull, "Storm Towers of the Santee Delta," *South Carolina Historical Magazine* 81 (April 1980): 95–105; David Doar, *Rice and Rice Planting in the South Carolina Lowcountry* (Charleston, SC, 1936), 23.

27. Robertson, *Short Account of the Hurricane,* 20–21; Bull suggests that the towers were common in South Carolina in the nineteenth century but that many were pulled down for their bricks after the rice industry collapsed at the end of the century. Bull, "Storm Towers of the Santee Delta," 95–105. Richard Porcher of the Citadel suggested to me that he has seen no evidence of the towers anywhere but the Santee Delta. Telephone conversation with the author, November 2002.

28. Atkins to Lords of Trade and Plantation, July 14, 1676, *CSPC,* 425; "Records of the Vestry of St Michael, September, 1675," *JBMHS* 16 (November 1948–February 1949): 57; "State of the Church in Jamaica, 1724," in Oliver, *Caribbeana,* 3:343–45; "St. George's Parish Church," pamphlet (Bridgetown, Barbados, n.d.).

29. Long, *History of Jamaica,* 2:5. A wooden spire was added to the church in 1817. Edward Crain, *Historic Architecture in the Caribbean Islands* (Gainesville, FL, 1994), 183; Gravette, *Architectural Heritage of the Caribbean,* 103–5, 227–89. On the rise of steeples on the mainland, see Bushman, *Refinement of America,* 170–80.

30. Leslie, *New and Exact Account of Jamaica,* 30; Louis Nelson, "Anglican Church Building and Local Context in Early Jamaica," in *Building Environments,* ed. Kenneth A. Breisch and Alison K. Hoagland, Perspectives in Vernacular Architecture 10 (Knoxville, TN, forthcoming 2005). I am grateful to Professor Nelson for sharing his work with me in typescript.

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## SEVEN: The Politics of Public Relief

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22. Cunningham to Assembly, May 1, 1781, in Cunningham to Germain June 20, 1781, CO 28/58/178–86, quotation on 186; Cunningham to Germain, November 26, 1781, CO 28/59/90; Cunningham to Germain, January 1, 1782, CO 28/59/145.

23. The history of the whole debate was recounted in Assembly Minutes, February 27, 1782, CO 31/41/176–79. The Assembly bill, adopted on October 30, 1781, is in CO 28/59/100–113. On questions about the distribution of the Irish funds, see CO 31/41/172, 188.

24. Assembly Minutes, February 27, CO 31/41/179; Cunningham to Germain, December 1, 1781, CO 28/59/114; Council Records, November 28, 1781, CO 31/42/143–45.

25. Cunningham to Germain, December 1, 1781, CO 28/59/92–93; Council Minutes, December 20, 1781, CO 31/41/154–55; Assembly Minutes, February 27, 1782, CO 31/41/193; Poyer, *History of Barbados,* 493–516.

26. Assembly Minutes, February 27, 1782, CO 31/41/172–73; Poyer, *History of Barbados,* 517.

27. Speeches of Striker and Husbands, Assembly Minutes, February 27, 1782, CO 31/41/171–76.

28. Speech by Alleyne, Assembly Minutes, February 27, 1782, CO 31/41/176–89; *St. James Chronicle,* April 3, 1781.

29. Poyer, *History of Barbados,* 440. [Henry Frere], *A Short History of Barbados from Its First Settlement to the End of the Year 1767* (London, 1768); [John Alleyne], *Remarks upon a Book Entitled "A Short History of Barbados"* (Barbados, 1768), 7, 58–59. For a broader examination of fights between the various branches of government, see Carrington, "West Indian Opposition to British Policy," 27–49. For reference to the duel, see O'Shaughnessy, *Empire Divided,* 121.

30. Assembly Minutes, February 27, 1782, CO 31/41 /173–75, 189–90; Cunningham to Germain, March 8, 1782, CO 28/59/188–89; Council Minutes, March 19, 1782, CO 31/42/182–83; Council Minutes, April 11, 1782, CO 31/42/186–87.

31. Assembly Minutes, April 23, 1782, CO 31/41/194–99, quotation on 195; Council Minutes, April 23, 1782, CO 31/42/190–99; Poyer, *History of Barbados,* 521–23; Robert Schomburgk, *The History of Barbados, Comprising a Geographical and Statistical De-*

*scription of the Island* (London, 1848; reprint, 1971), 345; Cunningham to Earl of Shelburne, May 25, 1782, CO 28/59/308.

32. *Barbados Mercury,* July 12, 1783, August 2, 1783, November 22, 1783, November 29, 1783, and December 6, 1783, microfilm copies in the Bridgetown Library; Poyer, *History of Barbados,* 523–25. An announcement for claims in St. Michael's Parish printed in the *Barbados Mercury,* November 8, 1783, however, stated that £5,800 had been allocated to the parish.

33. Minutes of the London Meetings of February 1781 contained in *JAJ,* 7:366–69.

34. Dalling to Germain, July 18, 1781, CO 137/80/306; *JAJ,* 7:379–83.

35. *JAJ,* 7:568–69.

36. Totals are outlined in *JAJ,* 7:569, 580–81; Douglas Hall, *In Miserable Slavery: Thomas Thistlewood in Jamaica, 1750–1786* (London, 1989), 288.

37. Petition from Hanover, March 2, 1782, *JAJ,* 7:460; Petition from Westmoreland, April 16, 1782, *JAJ,* 7:470.

38. Petition of Diverse Inhabitants of Hanover and Westmoreland, *JAJ,* November 12, 1782, 7:486–87. See also *JAJ,* 7:569. The Assembly did not meet between April and October 1782, which explains the delay between the distribution and the petition.

39. John Lauderdale (fisherman), John Oldman (carpenter), Thomas Fraser (clerk), and Thomas Merritt (watchmaker), *JAJ,* 7:493–95; Alexander Mylne, *JAJ,* 7:494; James Buchanan, *JAJ,* 7:491.

40. Mary Croll, *JAJ,* 7:489; Hannah Fraser, *JAJ,* 7:491; Elizabeth Fletcher, *JAJ,* 7:491.

41. Michael Rouse, *JAJ,* 7:494; Arthur Slater, *JAJ,* 7:495; Cicily Collum, *JAJ,* 7:490.

42. Mylne, *JAJ,* 7:573; Fraser, *JAJ,* 7:572; Woollery, *JAJ,* 7:578–79.

43. Daniel Cohen, *JAJ,* 7:572; Joseph Anthony, *JAJ,* 7:573; Henry Lumsden, *JAJ,* 7:573; Elizabeth Fletcher, *JAJ,* 7:571–72; James Hornsby, *JAJ,* 7:573; Chapman, *JAJ,* 7:572; Response to Woollery, *JAJ,* 7:570.

44. December 18, 1783, *JAJ,* 7:646.

45. Bryan Edwards, *The History, Civil and Commercial, of the British Colonies in the West Indies* (Dublin, 1793; reprint, 1972), 2:7–9; Memorial of His Majesty's Adopted Subjects in the Island of Grenada, n.d., quoted in O'Shaughnessy, *Empire Divided,* 29; Trevor Burnard, *Mastery, Tyranny, and Desire: Thomas Thistlewood and His Slaves in the Anglo-Jamaican World* (Chapel Hill, NC, 2004).

46. See Burnard, *Mastery, Tyranny, and Desire,* 70–100; Charles Payne, *JAJ,* 7:488; "Petition of Divers Inhabitants," *JAJ,* 7:486; James Buchanan, *JAJ,* 7:491; Robert Ross, *JAJ,* 7:492.

47. Elizabeth Hamilton, *JAJ,* 7:490; Hannah Fraser, *JAJ,* 7:491; Alexander Mylne, *JAJ,* 7:494; John Scibell, *JAJ,* 7:496; Edward Woollery, *JAJ,* 7:487.

48. Charles Payne, *JAJ,* 7:488; Woollery, *JAJ,* 7:486–87.

49. For a discussion of the different relationships within white society, see Burnard, *Mastery, Tyranny, and Desire,* 84–85.

50. Assembly Minutes, February 27, 1782, CO 31/41/184, 177, 184, 187; John Fitzpatrick, ed., *The Diaries of George Washington, 1748–1799* (Boston, 1925), 1:28–29.

## Conclusion

1. Account of the storm in Thistlewood's weatherbook quoted in Michael Chenoweth, *The Eighteenth Century Climate of Jamaica Derived from the Journals of Thomas Thistlewood, 1750–1786, Transactions of the American Philosophical Society* 93, no. 2

(Philadelphia, 2003): 137–38; Thistlewood Diaries, October 20, 21, 1786, quoted in Douglass Hall, *Thomas Thistlewood in Jamaica, 1750–1786* (London, 1989), 310; Trevor Burnard, *Mastery, Tyranny, and Desire: Thomas Thistlewood and His Slaves in the Anglo-Jamaican World* (Chapel Hill, NC, 2004), 242–43.

2. Bryan Edwards, *The History, Civil and Commercial, of the British Colonies in the West Indies* (Dublin, 1793; reprint, 1972), 1:9–10; On nineteenth-century debates, see James Fleming, *Meteorology in America, 1800–1870* (Baltimore, 1990), 23–54; Ludlum, *Early American Hurricanes,* ix; Bob Sheets and Jack Williams, *Hurricane Watch: Forecasting the Deadliest Storms on Earth* (New York, 2001), 31–60; Robert Schomburgk, *The History of Barbados, Comprising a Geographical and Statistical Description of the Island* (London, 1848; reprint, 1971), 37–43.

3. On nineteenth-century storms and their effect on plantations and slaves, see Duncan Heyward, *Seed from Madagascar* (1937; reprint, Columbia, SC, 1993), 221–48; "The Storm," *Balance and Columbian Repository* 3 (October 16, 1804): 334–35; "Some Particulars of a Terrible Hurricane Which Began to the Windward of the Caribbee Islands," *Medical Repository of Original Essays and Intelligence* 8 (February–April, 1805): 357; Ludlum, *Early American Hurricanes,* 53–55; Schomburgk, *History of Barbados*, 435; Elias Bull, "Storm Towers of the Santee Delta," *South Carolina Historical Magazine* 81 (April 1980): 95–105.

4. Richard Sheridan, "The Crisis of Slave Subsistence in the British West Indies during and after the American Revolution," *William and Mary Quarterly* 33 (October 1976): 615–41; Alice Keith, "Relaxations in the British Restrictions on the American Trade with the British West Indies," *Journal of Modern History* 20 (March 1948): 1–18; Herbert Bell, "British Commercial Policy in the West Indies, 1783–93," *English Historical Review* 31 (July 1916): 429–41; John McCusker, "The Economy of the British West Indies, 1763–1790: Growth, Stagnation, or Decline?" in McCusker, *Essays in the Economic History of the Atlantic World* (London, 1997), 310–30.

5. Sheridan, "Crisis of Slave Subsistence," 638–40; See Petition from Kingston, CO 137/84/189–90; Report of the Committee of the House of Assembly of Jamaica, November 12, 1788, in Edwards, *History of the West Indies,* 2:394–98; Richard Sheridan, *Doctors and Slaves: A Medical and Demographic History of Slavery in the British West Indies, 1680–1834* (Cambridge, 1985), 161.

6. William Dickson, *The Mitigation of Slavery in Two Parts* (London, 1814; reprint, 1970), 312; J. H. Bennett, *Bondmen and Bishops: Slavery and Apprenticeship on the Codrington Plantations of Barbados, 1710–1838* (Berkeley, CA, 1958), 88–102; Sheridan, "Crisis of Slave Subsistence," 615–41; Richard Sheridan, "Why the Condition of Slaves Was 'Less Intolerable in Barbadoes Than in Other Sugar Colonies,'" in *Inside Slavery: Process and Legacy in the Caribbean Experience,* ed. Hilary McD. Beckles (Kingston, Jamaica, 1996), 32–49; Sheridan, *Doctors and Slaves,* 164–68, 174–78; J. R. Ward, *British West Indian Slavery, 1750–1834: The Process of Amelioration* (Oxford, 1988), 105–18, 206–7, quotation on 111–12.

7. Dickson, *Mitigation of Slavery,* 315–16; Roderick McDonald, *The Economy and Material Culture of Slaves: Goods and Chattels on the Sugar Plantations of Jamaica and Louisiana* (Baton Rouge, LA, 1993), 27–28; Ward, *British West Indian Slavery*, 194, 184.

8. Schomburgk, *History of Barbados,* 54, 440–41. Schomburgk notes that Parliament allocated an additional £500,000 for Jamaican proprietors whose property was destroyed

during a slave rebellion. See also Bonham Richardson, *Economy and Environment in the Caribbean: Barbados and the Windward Islands in the Late 1800s* (Gainesville, FL, 1997), 94.

9. Michele Landis, "'Let Me Next Time Be Tried by Fire': Disaster Relief and the Origins of the American Welfare State, 1789–1874," *Northwestern University Law Review* 92 (Spring 1998): 967–1034; Raymond Arsenault, "The Public Storm: Hurricanes and the State in Twentieth-Century America," in *American Public Life and the Historical Imagination,* ed. Wendy Gamber, Michael Grossberg, and Hendrik Hartog (South Bend, IN, 2003), 262–92. For a listing of disaster relief allocations in the nineteenth century, see *Congressional Record 81–2* (1950–51), 96:11900–11902. Note that the United States government granted some financial aid to hurricane victims in Puerto Rico after the 1899 San Ciriaco hurricane. See Stuart Schwartz, "The Hurricane of San Ciriaco: Disaster, Politics, and Society in Puerto Rico, 1899–1901," *Hispanic American Historical Review* 72 (November 1992): 303–34.

10. Thistlewood Diaries, September 12, 1751, and August 7, 1781.

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# Essay on Sources

Accounts and descriptions of hurricanes in the seventeenth and eighteenth centuries come from myriad sources. The best place to begin searching for information about the storms (and other disasters) in the British colonies is the *Calendar of State Papers, Colonial: America and the West Indies,* which contains detailed summaries of correspondence between the colonies and London officials. Although it was not available when I did most of the research for this book, the recent CD-ROM edition of these papers allows easy keyword searching for accounts of the storms. The *Calendar* includes documents only through 1739. For information about hurricanes after that date, researchers must consult the materials in the British Public Record Office (PRO) at Kew. The Colonial Office records housed at the PRO contain a wealth of information about the storms and their effect on specific colonies. In a few cases, copies of West Indian newspapers are included as enclosures in official correspondence. Local archives in Barbados, Jamaica, and South Carolina also contain some important official records, notably vestry minutes from various periods during the eighteenth century.

Newspapers provide another important source of information. Again, the recently available online edition of the *Pennsylvania Gazette* provides the easiest access to eighteenth-century accounts. Colonial newspapers often copied verbatim accounts of news from other papers, including news of disasters. As a result, accounts of hurricanes from South Carolina or from West Indian papers, of which there are few extant copies from this period, often appear in the *Gazette.* Nevertheless, when available, local papers provide the best means of tracking news of a disaster and its aftermath. Information on the relief efforts after the 1780 hurricane in Barbados, for example, appears only in the *Barbados Mercury* from 1783. Microfilm copies of the paper are housed in the Bridgetown Public Library. English newspapers are another good source of information both on the storms and on relief efforts in the eighteenth century. The *St. James Chronicle* is particularly useful. Periodicals, notably the *Gentleman's Magazine* and the *Annual Register,* often contain detailed accounts of hurricanes.

In addition to newspapers and official correspondence, travel accounts and histories of the colonies are invaluable sources for information about hurricanes and their effect on colonial society. Few travelers to the region failed to discuss hurricanes, and many of their writings include accounts of specific storms. Some of the most helpful are William Dampier, *Voyages and Descriptions: Volume II in Three Parts* (London, 1700); Pierre François Charlevoix, *A Voyage to North America . . . also a Description and*

*Natural History of the Islands in the West Indies* (Dublin, 1766); and John Bartram, "Diary of a Journey through the Carolinas, Georgia, and Florida, 1765–66," *Transactions of the American Philosophical Society* 33 (Philadelphia, 1942): 1–120. John Atkins, *A Voyage to Guinea, Brasil, and the West Indies* (London, 1735), has a detailed account of the 1722 hurricane in Jamaica. Contemporary histories of the colonies also contain discussions of hurricanes. The best include Charles de Rochefort, *The History of the Caribby-Islands* (London, 1666); John Oldmixon, *The British Empire in America* (London, 1708); Charles Leslie, *A New and Exact Account of Jamaica* (Edinburgh, 1740); Edward Long, *The History of Jamaica* (London, 1774); and Bryan Edwards, *The History, Civil and Commercial, of the British Colonies in the West Indies* (Dublin, 1793; reprint, 1972). Vere Langford Oliver, ed., *Caribbeana: Being Miscellaneous Papers relating to the History, Genealogy, Topography, and Antiquities of the British West Indies* (London, 1910) is an invaluable collection of primary sources concerning the Caribbean colonies, and includes several detailed accounts of hurricanes.

Several contemporary pamphlets offer information on specific storms, including John Taylor, *Newes and Strange Newes from St. Christophers, of a tempestuous Spirit, which is called by the Indians a Hurry-Cano or whirlewind* (London, 1638); [Rev. Robert Robertson], *A Short Account of the Hurricane that pass'd thro' the English Leeward Caribbee Islands* (London, 1733); and John Fowler, *A General Account of the Calamities Occasioned by the Late Tremendous Hurricanes and Earthquakes in the West-India Islands* (London, 1781), which reprints newspaper accounts of the 1780 hurricanes in British, French, and Dutch islands and has important materials on the campaign organized in Britain for victims' relief. The *Philosophical Transactions of the Royal Society* has several essays by colonists and natural philosophers in England that discuss hurricanes and speculate on the causes of the storms. The most detailed seventeenth-century account of hurricanes and their causes is Ralph Bohun, *A Discourse concerning the Origine and Properties of Wind, with an Historicall Account of Hurricanes and Other Tempestuous Winds* (Oxford, 1671).

Many of the sources noted above are readily available at academic libraries and increasingly through online databases. Others, however, exist only in manuscript. These include James Knight's very useful two-volume "The Natural, Morall, and Political History of Jamaica," housed at the British Library, Additional Manuscripts 12418–19, and John Taylor's account of seventeenth-century Jamaica, housed at the National Library of Jamaica in Kingston, which has some information on hurricanes and earthquakes and provides a wealth of detail on colonial society generally.

Manuscript journals, notebooks, and letterbooks kept by planters and merchants are the best means to examine the social and economic impact of individual storms. Thomas Thistlewood's diaries offer particularly illuminating accounts of the several hurricanes that struck Jamaica during the first half of the 1780s. The originals are housed at the Lincolnshire Archives, but microfilm copies are at the University of the West Indies, Mona, Jamaica, and the American Philosophical Society in Philadelphia. John Guerard's letterbook at the South Carolina Historical Society in Charleston includes invaluable information about the 1752 hurricanes from a merchant's perspec-

tive. Several published collections of letters and journals also have useful materials. The letters of St. Kitts planter Christopher Jeaffreson, collected in John Cordy Jeaffreson, ed., *A Young Squire of the Seventeenth Century: From the Papers of Christopher Jeaffreson* (London, 1878), provide details on the two 1681 hurricanes that devastated the Leeward Islands. The monumental Philip Hamer et al., eds., *Papers of Henry Laurens* (Columbia, SC, 1968–2000), is well indexed and contains numerous references to storms in South Carolina and elsewhere in the British Atlantic world during the second half of the eighteenth century. William Senhouse's memoirs, published serially in the *Journal of the Barbados Museum and Historical Society* (1935–36), offers a good description of the 1780 hurricane and its effects. The Jamaican planter William Beckford ruminates on the sublime power of nature in his lengthy recounting of the 1780 hurricane in *A Descriptive Account of the Island of Jamaica* (London, 1790).

Information on hurricanes in the seventeenth- and eighteenth-century British Greater Caribbean is also found in a variety of secondary sources. Several scholars have compiled accounts of hurricanes over time that, although more descriptive than analytical, provide a good starting point for examining the history of the storms. The best compilations are David Ludlum, *Early American Hurricanes: 1492–1870* (Boston, 1963); José Carlos Millás, *Hurricanes of the Caribbean and Adjacent Regions, 1492–1800* (Miami, 1968); Edward Rappaport and José Fernandez-Partagas, "The Deadliest Atlantic Tropical Cyclones, 1492–1994," NOAA Technical Memorandum, NWS NHC-47, January 1995; and Jeanne Calhoun, *The Scourging Wrath of God: Early Hurricanes in Charleston, 1700–1804,* Charleston Museum Leaflet no. 29 (Charleston, 1983). Jay Barnes's *North Carolina's Hurricane History* (Chapel Hill, NC, 1995) and his *Florida's Hurricane History* (Chapel Hill, NC, 1998) are good introductory surveys, although weighted toward the nineteenth and twentieth centuries. Michael Chenoweth, *The Eighteenth-Century Climate of Jamaica: Derived from the Journals of Thomas Thistlewood, 1750–1786, Transactions of the American Philosophical Society* 93 (Philadelphia, 2003), covers all aspects of Jamaica's climate and has a detailed appendix of tropical storms and hurricanes that struck the colony in the second half of the eighteenth century.

Other older but still useful listings of storms are found in Ivan Ray Tannehill, *Hurricanes: Their Nature and History* (Princeton, NJ, 1938); Edward Garriott, *West Indian Hurricanes* (Washington, DC, 1900); Andres Poey, "A Chronological Table, Comprising 400 Cyclonic Hurricanes Which Have Occurred in the West Indies and in the North Atlantic within 362 Years, from 1493 to 1855," *Journal of the Royal Geographical Society* 25 (1855): 291–328; and Robert Schomburgk, *The History of Barbados, Comprising a Geographical and Statistical Description of the Island* (London, 1848; reprint, 1971).

The best discussion of the effect of hurricanes on colonial societies appears, not surprisingly, in environmental or geographic studies of the region. David Watts, *The West Indies: Patterns of Development, Culture, and Environmental Change since 1492* (Cambridge, 1987), is the most comprehensive environmental history of the entire Caribbean and has a good deal of information on hurricanes, particularly in the

British islands. Mart Stewart, "*What Nature Suffers to Groe*": *Life, Labor, and Landscape on the Georgia Coast, 1680–1920* (Athens, GA, 1996), has an excellent discussion of how hurricanes affected low-country rice production. An older but still valuable study is Otis Starkey, *The Economic Geography of Barbados: A Study in the Relationships between Environmental Variation and Economic Development* (New York, 1939).

Broader social and economic histories of the region also provide valuable information regarding hurricanes and the context in which they struck. The best study of the West Indies remains Richard Dunn, *Sugar and Slaves: The Rise of the Planter Class in the British West Indies, 1624–1713* (Chapel Hill, NC, 1972). In addition, see Carl Bridenbaugh and Roberta Bridenbaugh, *No Peace Beyond the Line: The English in the West Indies, 1624–1690* (New York, 1972); Richard Sheridan, *Sugar and Slavery: An Economic History of the British West Indies, 1623–1775* (1974; reprint, Kingston, Jamaica, 2000); and J. R. Ward, *British West Indian Slavery, 1750–1834: The Process of Amelioration* (Oxford, 1988). Richard Pares, *A West-India Fortune* (London, 1950), offers insight on the economic effect of hurricanes in eighteenth-century Nevis. His essay "The London Sugar Market, 1740–1769," *Economic History Review* 9 (1956): 254–70, stresses how such losses affected London merchants. Peter Hulme offers a literary account of the European encounter with hurricanes in his *Colonial Encounters: Europe and the Native Caribbean, 1492–1797* (London, 1986) and "Hurricanes in the Caribbees: The Constitution of the Discourse of English Colonialism," in *1642: Literature and Power in the Seventeenth Century,* ed. Francis Barker et al. (Colchester, UK, 1981), 55–83. Ian Steele discusses how hurricanes influenced shipping schedules and suggests that some officials may have exaggerated the role of hurricanes in disrupting shipping in *The English Atlantic, 1675–1740: An Exploration of Communication and Community* (Oxford, 1986).

The best overview of colonial South Carolina is Robert Weir, *Colonial South Carolina: A History* (New York, 1983; reprint, Columbia, SC, 1997), although it mentions hurricanes only briefly. Joyce Chaplin, *An Anxious Pursuit: Agricultural Innovation and Modernity in the Lower South, 1730–1815* (Chapel Hill, NC, 1993), likewise has some brief information on the storms but provides valuable insight on plantation operations more generally. S. Max Edelson, "Planting the Lowcountry: Agricultural Enterprise and Economic Experience in the Lower South, 1695–1785" (Ph.D. diss., Johns Hopkins University, 1998), is an excellent study that highlights the importance of environmental factors, including hurricanes, to South Carolina's social and economic development. Jonathan Mercantini uses the 1752 hurricanes to explore political relations between the governor and the assembly in "The Great Carolina Hurricane of 1752," *South Carolina Historical Magazine* 103 (October 2002): 351–65. Walter Fraser, *Charleston! Charleston! The History of a Southern City* (Columbia, SC, 1989), discusses the effect of various storms on the city during the late seventeenth and eighteenth centuries.

The multiple hurricanes that struck during the 1780s have attracted particular attention from scholars, most of whom discuss the storms within the larger context of crises and disruptions caused by the American Revolution. These studies also provide the most detailed examination of the consequences of hurricanes for slave populations in the region. The best account is Richard Sheridan, "The Crisis of Slave Subsistence in

the British West Indies during and after the American Revolution," *William and Mary Quarterly* 33 (October 1976): 615–41. See also Richard Sheridan, *Doctors and Slaves: A Medical and Demographic History of the British West Indies, 1680–1834* (Cambridge, 1985); Edward Braithwaite, *The Development of Creole Society in Jamaica* (Oxford, 1971); Lowell Ragatz, *The Fall of the Planter Class in the British Caribbean, 1763–1833* (New York, 1928; reprint, 1977); and most recently Selwyn Carrington, *The Sugar Industry and the Abolition of the Slave Trade, 1775–1810* (Gainesville, FL, 2002). Andrew O'Shaughnessy, *An Empire Divided: The American Revolution and the British Caribbean* (Philadelphia, 2000), is the most comprehensive account of the region during the war and has some material on the hurricanes.

General studies of climate and weather during the colonial period help situate colonists' understanding of hurricanes within broader contexts. Karen Kupperman's three essays are foundational works for anyone interested in ideas about climate and its importance to colonization efforts. See Kupperman, "The Puzzle of the American Climate in the Early Colonial Period," *American Historical Review* 87 (December 1982): 1262–89; "The Fear of Hot Climates in the Anglo-American Colonial Experience," *William and Mary Quarterly* 41 (April 1984): 213–40; and "Climate and Mastery of the Wilderness in Seventeenth-Century England," in *Seventeenth-Century New England,* ed. David Hall and David Grayson (Boston, 1986), 3–37. Joyce Chaplin, "Climate and Southern Pessimism: The Natural History of an Idea, 1500–1800," in *The South as an American Problem,* ed. Larry Griffin and Don Doyle (Athens, GA, 1995), 57–82; and Chaplin, *Subject Matter: Technology, the Body, and Science on the Anglo-American Frontier, 1500–1676* (Cambridge, MA, 2001), are likewise essential works that consider the relation between climate and colonial society. Vladimir Jankovic, *Reading the Skies: A Cultural History of English Weather, 1620–1820* (Chicago, 2000), is a fascinating study of ideas about weather in the early modern period. Peter Eisenstadt, "The Weather and Weather Forecasting in Colonial America" (Ph.D. diss., New York University, 1990), provides a good overview of the topic for the colonies and contains much useful information.

A number of other studies examining hurricanes in different periods, in different places, and from a variety of scholarly perspectives—including the history of science, sociology, anthropology, geography, environmental studies, and meteorology—are important to consider and contribute to a better understanding of hurricanes and their place in the history of the British colonies in the region.

The best historical studies of hurricanes to date focus on the Spanish Caribbean. Stuart Schwartz's article "The Hurricane of San Ciriaco: Disaster, Politics, and Society in Puerto Rico, 1899–1901," *Hispanic American Historical Review* 72 (November 1992): 303–34, sparked recent interest in studying hurricanes as historical events. Louis Perez, *Winds of Change: Hurricanes and the Transformation of Nineteenth Century Cuba* (Chapel Hill, NC, 2001), offers the fullest study of the effect of the storms on a colonial society, in this case Cuba. Both are models of how to write a social history of hurricanes and highlight the insights that can be gained by examining societies through the

lens of disasters. Schwartz has offered an overview of the potential and limitation of writing histories of hurricanes for the region in "Hurricanes and the Shaping of Caribbean Societies," *Florida Historical Quarterly,* forthcoming.

Several scholars have explored the consequences of specific hurricanes or examined shifting interpretations and responses to hurricanes over time. Although focusing on later periods, they nonetheless contain useful information or analysis. The work of Bonham Richardson is especially noteworthy. His *Economy and Environment in the Caribbean: Barbados and the Windwards in the Late 1800s* (Gainesville, FL, 1997) has a good discussion of the 1898 hurricane and its effect on Barbados and St. Vincent. He also explores these issues in an article, "Catastrophes and Change on St. Vincent," *National Geographic Research* 5 (1989): 111–25, which links hurricanes and volcanic eruptions to the decline of the sugar industry on that island. James Fleming provides a detailed analysis of the nineteenth-century scientific debates about hurricanes in *Meteorology in America: 1800–1870* (Baltimore, 1990), but the book also has some information on the eighteenth century. Duncan Heyward, *Seed from Madagascar* (Columbia, SC; reprint, 1993), has lengthy sections on how hurricanes affected South Carolina rice plantations in the latter part of the nineteenth century. Ray Arsenault, "The Public Storm: Hurricanes and the State in Twentieth-Century America," in *American Public Life and the Historical Imagination,* ed. Wendy Gamber, Michael Grossberg, and Hendrik Hartog (South Bend, IN, 2003), 262–92, provides a good examination of hurricanes from a public policy perspective. Theodore Steinberg, *Acts of God: The Unnatural History of Natural Disaster in America* (New York, 2000), is the most important study of disasters in American history and discusses historical hurricanes in South Carolina and Florida. Marjory Stoneman Douglas, *Hurricane* (New York, 1958), is an older but still useful historical account of hurricanes beginning with Columbus.

The literature concerning the science of hurricanes is essential reading. Much of this material is highly technical, but several studies are accessible to more general readers. They include Roger Pielke Jr. and Roger Pielke Sr., *Hurricanes: Their Nature and Impacts on Society* (Chichester, UK, 1997); Roger Pielke, *The Hurricane* (London, 1990); Kerry Emanuel, "Tropical Cyclones," *Annual Review of Earth and Planetary Sciences* 31 (2003): 75–104; Kerry Emanuel, "Toward a General Theory of Hurricanes," *American Scientist* 76 (July–August 1988): 371–79; James Elsner and A. Birol Kara, *Hurricanes of the North Atlantic: Climate and Society* (New York, 1999); and Ernest Zebrowski, *Perils of a Restless Planet: Scientific Perspectives on Natural Disasters* (Cambridge, 1997). Bob Sheets and Jack Williams, *Hurricane Watch: Forecasting the Deadliest Storms on Earth* (New York, 2001), is a popular account but nevertheless contains a great deal of useful information, including charts on the frequency with which hurricanes strike selected regions and some material on storms in the seventeenth and eighteenth centuries.

Finally, most recent students of hurricanes and other disasters, both historical and contemporary, operate from a theoretical premise that natural disasters are never entirely natural events. In doing so they draw on a large literature written mostly by sociologists and anthropologists that examines the consequences of various disasters around the world. Good introductions to the key insights and arguments are Kenneth

Hewitt, "The Idea of Calamity in a Technocratic Age," in *Interpretations of Calamity from the Viewpoint of Human Ecology,* ed. Kenneth Hewitt (Boston, 1983); Anthony Oliver-Smith, "Disaster Context and Causation: An Overview of Changing Perspectives in Disaster Research," *Natural Disasters and Cultural Responses in Third World Societies* 36 (June 1986): 1–34; Anthony Oliver-Smith and Susanna Hoffman, "Introduction: Why Anthropologists Should Study Disasters," in *Catastrophe and Culture: The Anthropology of Disaster,* ed. Susanna Hoffman and Anthony Oliver-Smith (Santa Fe, NM, 2002); Oliver-Smith, "Theorizing Disasters: Nature, Power, and Culture," in ibid.; E. L. Quarantelli, ed., *What Is a Disaster? Perspectives on the Question* (London, 1998); J. L. Anderson and E. L. Jones, "Natural Disasters and the Historical Response," *Australian Economic History Review* 28 (March 1988): 3–20; and Piers Blaikie et al., eds., *At Risk: Natural Hazards, People's Vulnerability, and Disasters* (London, 1994).

Historians increasingly have applied such ideas to their examinations of past disasters. Some of the best recent work on historical disasters includes Steven Biel, ed., *American Disasters* (New York, 2000); Theodore Steinberg, *Acts of God: The Unnatural History of Natural Disaster in America* (New York, 2000); Alessa Johns, ed., *Dreadful Visitations: Confronting Natural Catastrophe in the Age of Enlightenment* (New York, 1999), which has essays examining calamities in various parts of the world, including the Americas, during the eighteenth century; Charles Walker, "The Upper Classes and Their Upper Stories: Architecture and the Aftermath of the Lima Earthquake of 1746," *Hispanic American Historical Review* 83 (February 2003): 53–82; Eric Klinenberg, *Heat Wave: A Social Autopsy of Disaster in Chicago* (Chicago, 2002); and Karen Sawislak, *Smoldering City: Chicagoans and the Great Fire, 1871–1874* (Chicago, 1995). Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York, 1998), has generated much controversy but is an important book to consider for those interested in disaster studies. See also his *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (New York, 2002). John C. Burnham outlined the possibilities for the field in "A Neglected Field: The History of Natural Disasters," *Perspectives* (American Historical Association Newsletter), April 1998, 22–24.

Several studies of historical disasters in the Caribbean also have appeared recently. Bonham Richardson, *Igniting the Caribbean's Past: Fire in British West Indian History* (Chapel Hill, NC, 2004), offers valuable insights on the role of this particular form of disaster in Caribbean society. Alwyn Scarth, *La Catastrophe: The Eruption of Mount Pelée, the Worst Volcanic Disaster of the Twentieth Century* (Oxford, 2002), and Ernest Zebrowski, *The Last Days of St. Pierre: The Volcanic Disaster that Claimed 30,000 Lives* (New Brunswick, NJ, 2002), examine one of the worst disasters in the region's history. Finally, for a provocative account of the role of disasters in economic development in Europe and Asia, see E. L. Jones, *The European Miracle: Environments, Economies, and Geopolitics in the History of Europe and Asia* (Cambridge, 1981).

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